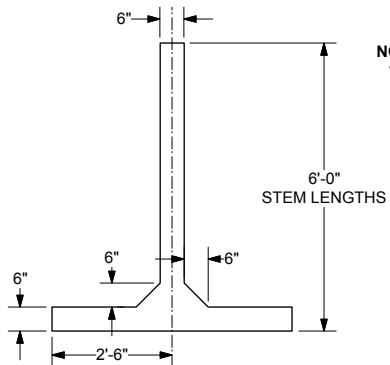
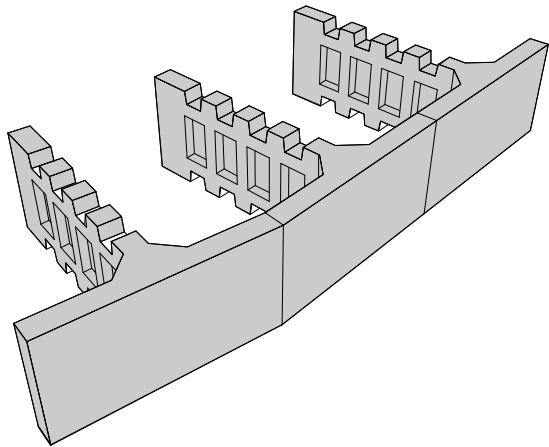


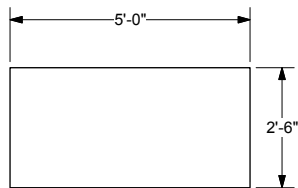
BORDER-TNC T-WALL HWY v4.1

USER NAME: N/A
VECTORWORKS 2014

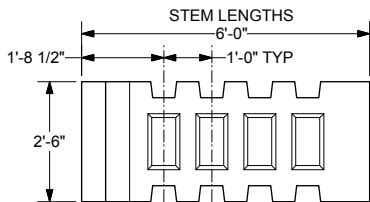
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VW SHEET NAME: TW-1



TOP VIEW

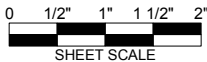


FRONT VIEW



SIDE VIEW

TYPICAL 2'-6" x 5'-0" x 6'-0" STEM T-WALL® UNIT



SHEET SCALE

The design contained on these drawings is based upon information provided by the owner. On the basis of this information, The Neel Company has designed, and is responsible for, the internal stability of the structure only. External stability, including foundation and slope stability, is the responsibility of the owner.

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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

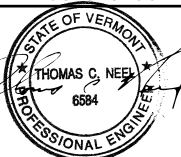
DESIGNER



THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

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I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET

WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
COVER SHEET

T-WALL® RETAINING WALL SYSTEM

SCALE: NO SCALE

DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: CTH

CHECKED BY: KB

SHEET: TW-1

I-89 BRIDGE DECK REPLACEMENTS

I-89 OVER STOWE STREET

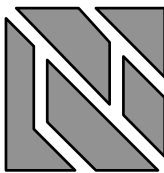
WATERBURY, VT

IM 089-2(43)

T-WALL®

RETAINING WALL SYSTEM

DESIGNER



THE NEEL COMPANY

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SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
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WEB: WWW.NEELCO.COM

PRECASTER



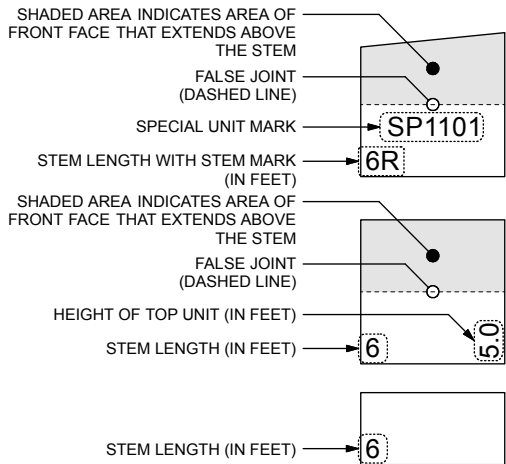
Concrete Systems Inc.

9 Commercial St., Hudson, NH, 03051
Phone 603-889-4163
Fax 603-889-2417
Web www.csigroup.biz

INDEX OF DRAWINGS

SEE SHEET TW-2 FOR
INDEX OF DRAWINGS

LEGEND



SPECIAL TOP T-WALL® UNIT
(FRONT FACE HEIGHT VARIES)

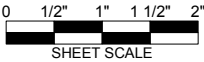
STANDARD TOP T-WALL® UNIT
(FRONT FACE HEIGHT VARIES)

STANDARD 2'-6" T-WALL® UNIT

TYPICAL PANEL NOTATION
NO SCALE

INDEX OF DRAWINGS

SHEET	TITLE	REV	DATE
TW-1	COVER SHEET		1/23/2015
TW-2	INDEX OF DRAWINGS		1/23/2015
TW-3	T-WALL® NOMENCLATURE AND TYPICAL SYSTEM DETAILS		1/23/2015
TW-4	GENERAL T-WALL® NOTES AND QUANTITIES		1/23/2015
TW-5	WALL A ELEVATION, PLAN AND SECTION		1/23/2015
TW-6	WALL 1 ELEVATION, PLAN, SECTION		1/23/2015
TW-7	WALL 1 90 DEG. CORNER DETAIL		1/23/2015
TW-8	WALL 1 CORNER PAN REMOVAL DETAIL		1/23/2015
TW-9	WALL 2 ELEVATION, PLAN, SECTION		1/23/2015
TW-10	WALL 2 90 DEG. CORNER DETAIL		1/23/2015
TW-11	WALL 2 CORNER PAN REMOVAL DETAIL		1/23/2015
TW-12	WALL 3 ELEVATION, PLAN, SECTION		1/23/2015
TW-13	WALL 3 90 DEG. CORNER DETAIL		1/23/2015
TW-14	WALL 3 CORNER PAN REMOVAL DETAIL		1/23/2015
TW-15	WALL 4 ELEVATION, PLAN, SECTION		1/23/2015
TW-16	WALL 4 90 DEG. CORNER DETAIL		1/23/2015
TW-17	WALL 4 CORNER PAN REMOVAL DETAIL		1/23/2015
TW-18	WALL 5 ELEVATION, PLAN, SECTION		1/23/2015
TW-19	WALL 5 90 DEG. CORNER DETAIL		1/23/2015
TW-20	WALL 5 CORNER PAN REMOVAL DETAIL		1/23/2015
TW-21	WALL 6 ELEVATION, PLAN, SECTION		1/23/2015
TW-22	WALL 6 90 DEG. CORNER DETAIL		1/23/2015
TW-23	WALL 6 CORNER PAN REMOVAL DETAIL		1/23/2015
TW-24	WALL 7 ELEVATION, PLAN, SECTION		1/23/2015
TW-25	WALL 7 90 DEG. CORNER DETAIL		1/23/2015
TW-26	WALL 7 CORNER PAN REMOVAL DETAIL		1/23/2015
TW-27	WALL 8 ELEVATION, PLAN, SECTION		1/23/2015
TW-28	WALL 8 90 DEG. CORNER DETAIL		1/23/2015
TW-29	WALL 8 CORNER PAN REMOVAL DETAIL		1/23/2015
TW-30	STANDARD UNIT REBAR (I)		1/23/2015
TW-31	STANDARD UNIT REBAR (II)		1/23/2015
TW-32	STANDARD CORNER UNIT REBAR (I)		1/23/2015
TW-33	STANDARD CORNER UNIT REBAR (II)		1/23/2015
TW-34	STANDARD CORNER 2.25' STEM REBAR (I)		1/23/2015
TW-35	STANDARD CORNER 2.25' STEM REBAR (II)		1/23/2015
TW-36	STANDARD CORNER 2.75' STEM REBAR (I)		1/23/2015
TW-37	STANDARD CORNER 2.75' STEM REBAR (II)		1/23/2015
TW-38	STANDARD TOP UNIT REBAR (I)		1/23/2015
TW-39	STANDARD TOP UNIT REBAR (II)		1/23/2015
TW-40	STANDARD TOP CORNER UNIT REBAR (I)		1/23/2015
TW-41	STANDARD TOP CORNER UNIT REBAR (II)		1/23/2015
TW-42	STANDARD TOP CORNER 2.25' STEM REBAR (I)		1/23/2015
TW-43	STANDARD TOP CORNER 2.25' STEM REBAR (II)		1/23/2015
TW-44	SPECIAL UNITS SP1, SP4, SP5, SP8 REBAR (I)		1/23/2015
TW-45	SPECIAL UNITS SP1, SP4, SP5, SP8 REBAR (II)		1/23/2015
TW-46	SPECIAL UNITS SP2, SP3, SP6 REBAR (I)		1/23/2015
TW-47	SPECIAL UNITS SP2, SP3, SP6 REBAR (II)		1/23/2015
TW-48	SPECIAL UNIT SP7 REBAR (I)		1/23/2015
TW-49	SPECIAL UNIT SP7 REBAR (II)		1/23/2015
TW-50	SPECIAL UNITS SP9, SP12 REBAR (I)		1/23/2015
TW-51	SPECIAL UNITS SP9, SP12 REBAR (II)		1/23/2015
TW-52	SPECIAL UNIT SP10 REBAR (I)		1/23/2015
TW-53	SPECIAL UNIT SP10 REBAR (II)		1/23/2015
TW-54	SPECIAL UNIT SP13 REBAR (I)		1/23/2015
TW-55	SPECIAL UNIT SP13 REBAR (II)		1/23/2015
TW-56	SPECIAL UNIT SP14 REBAR (I)		1/23/2015
TW-57	SPECIAL UNIT SP14 REBAR (II)		1/23/2015




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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

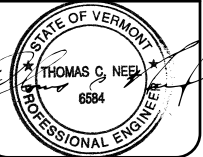
DESIGNER



THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
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PROJECT #: TW4437

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TO INTERNAL STABILITY OF
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REVISIONS		

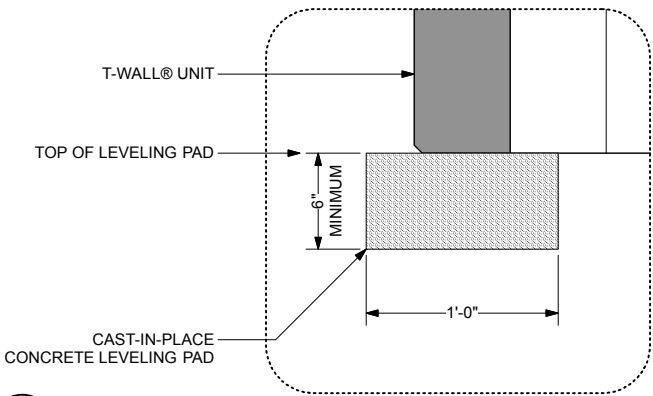
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET

WATERBURY, VT
IM 089-2(43)

SHOP DRAWINGS
INDEX OF DRAWINGS

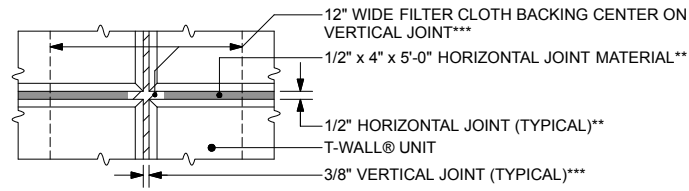
T-WALL® RETAINING WALL SYSTEM

SCALE:	NO SCALE
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-2



4 LEVELING PAD DETAIL

Scale: 2" = 1'-0"

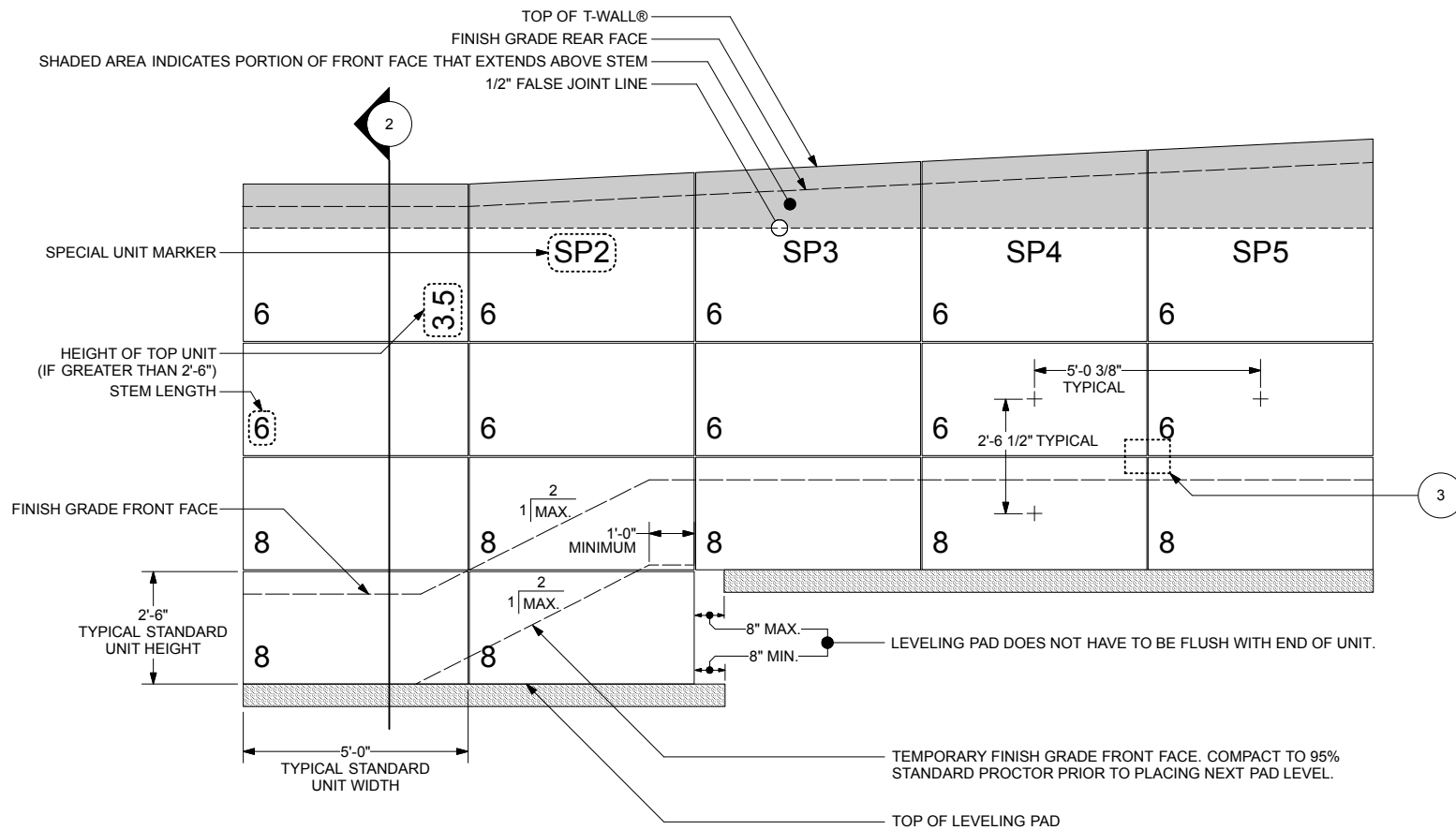


3 HORIZONTAL AND VERTICAL JOINT DETAIL

Scale: 2" = 1'-0"

** SEE GENERAL NOTE 4 ON SHEET TW-4 FOR ADDITIONAL DETAILS

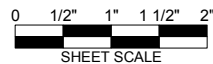
*** SEE GENERAL NOTE 5 ON SHEET TW-4 FOR ADDITIONAL DETAILS



1 PARTIAL ELEVATION SHOWN - TYPICAL DETAILS

Scale: 1/2" = 1'-0"

NOT ALL DETAILS APPLY. SEE SPECIFIC WALL ELEVATIONS



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

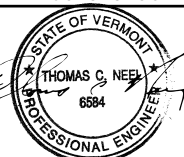
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PROJECT #: TW4437

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T-WALL® STRUCTURES ONLY



REVISIONS

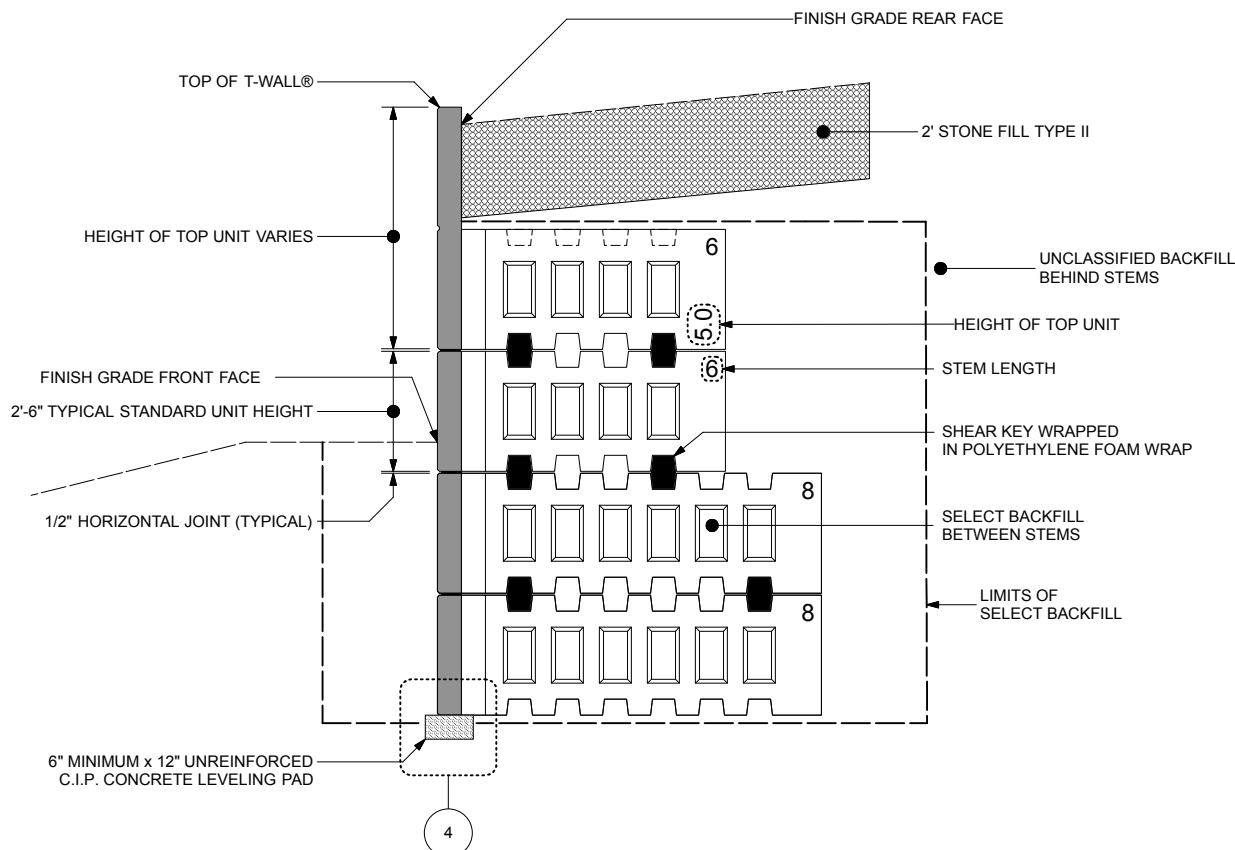
NO.	DESCRIPTION	DATE

SHEAR KEY NOTES:

1. WALL IS DESIGNED FOR SPECIFIC NUMBER OF SHEAR KEYS AS NOTED IN 'GENERAL NOTES', NOTE 11 'SHEAR KEY' ON SHEET TW-4. LOCATION OF SHEAR KEYS CAN BE ADJUSTED IF NECESSARY AT A SPECIFIC LEVEL.

NOMENCLATURE NOTE:

THIS SHEET IS PROVIDED FOR GENERAL INFORMATION PURPOSES ONLY, REFERENCING STANDARD DETAILS APPLICABLE TO ANY T-WALL® STRUCTURE. THIS SHEET IS NOT INTENDED TO PROVIDE DETAILS SPECIFIC TO THE WALL STRUCTURES CONTAINED IN THIS DRAWING PACKAGE. FOR INFORMATION SPECIFIC TO THESE WALLS, SEE THE APPLICABLE DRAWING SHEETS.



2 PARTIAL ELEVATION SHOWN - TYPICAL DETAILS

Scale: 1/2" = 1'-0"

NOT ALL DETAILS APPLY. SEE SPECIFIC WALL ELEVATIONS

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET

WATERBURY, VT
IM 089-2(43)

SHOP DRAWINGS

T-WALL® NOMENCLATURE AND TYPICAL SYSTEM DETAILS

T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-3

UTILITIES NOTES:

- THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES (HORIZONTAL AND VERTICAL) PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY OTHER PUBLIC UTILITIES (GAS, PHONE, ELECTRIC, CABLE TV, WATER, SEWER, ETC.) TO MAKE ALL NECESSARY ADJUSTMENTS TO RESPECTIVE FACILITIES BEFORE START OF CONSTRUCTION OF T-WALL®'S LEVELING PAD.
- ANY EXISTING UTILITIES THAT ARE LOCATED WITHIN THE STEM AREA OF THE T-WALL® UNITS MUST BE RELOCATED. ALL UTILITIES MUST STAY CLEAR OF T-WALL® STEM BY 2'-0".
- T-WALL® UNIT AND UTILITY CONFLICTS:
 - FIELD CUTTING OF T-WALL® UNITS TO AVOID UTILITY CONFLICTS (NOT SHOWN ON CONTRACT DRAWINGS) IS PROHIBITED UNTIL IT IS BROUGHT TO THE DESIGNER'S ATTENTION. THE NEEL COMPANY SHALL PROVIDE DIRECTION AND / OR REDESIGN T-WALL® UNITS TO AVOID CONFLICTS.

SPECIAL NOTES:

- THESE DRAWINGS WERE PREPARED BASED ON INFORMATION GIVEN IN THE FOLLOWING:
 - CONTRACT DRAWINGS:
 - IM 089-2(43) (RE-ADVERTISED)
 - PREPARED BY STANTEC, SOUTH BURLINGTON, VT, 6/10/2014
 - GEOTECHNICAL REPORT:
 - INFORMATION PROVIDED ON CONTRACT DRAWINGS BR100 THRU BR106
 - SPECIFICATIONS:
 - NONE PROVIDED
- REPORT DISCREPANCIES BETWEEN CONTRACT INFORMATION AND ACTUAL CONDITIONS AS SITE WORK PROGRESSES TO THE NEEL COMPANY FOR REDESIGN. NO LIABILITY IS ACCEPTED FOR INACCURATE INFORMATION SUPPLIED BY OTHERS.
- THE FOLLOWING ASSUMPTIONS WERE MADE:
 - FOUNDATION IS ABLE TO SUPPORT BEARING PRESSURE SHOWN IN SPECIAL NOTES 4 WITH AN ACCEPTABLE FACTOR OF SAFETY.
- APPLIED BEARING PRESSURE AT MAXIMUM HEIGHT:

WALL A	3,703 psf	(FACTORED)	2,537 psf	(UNFACTORED)
WALL 1	3,001 psf	(FACTORED)	2,022 psf	(UNFACTORED)
WALL 2	3,292 psf	(FACTORED)	2,266 psf	(UNFACTORED)
WALL 3	3,703 psf	(FACTORED)	2,537 psf	(UNFACTORED)
WALL 4	4,732 psf	(FACTORED)	3,197 psf	(UNFACTORED)
WALL 5	3,491 psf	(FACTORED)	2,398 psf	(UNFACTORED)
WALL 6	4,446 psf	(FACTORED)	3,017 psf	(UNFACTORED)
WALL 7	3,514 psf	(FACTORED)	2,348 psf	(UNFACTORED)
WALL 8	3,491 psf	(FACTORED)	2,398 psf	(UNFACTORED)

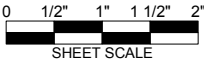
 - DESIGN IS BASED ON AASHTO LRFD
- THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED UPON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, THE NEEL COMPANY HAS DESIGNED, AND IS RESPONSIBLE FOR, THE INTERNAL STABILITY OF THE STRUCTURE ONLY. EXTERNAL STABILITY, INCLUDING FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER.
- THE NEEL COMPANY HAS NOT PERFORMED GLOBAL STABILITY SETTLEMENT AND BEARING CAPACITY ANALYSIS FOR THE WALL FOUNDATION. THESE ANALYSES WILL BE THE RESPONSIBILITY OF THE OWNER.
- DRAINAGE:
 - THE NEEL COMPANY HAS NOT PERFORMED A DRAINAGE ANALYSIS FOR THIS WALL SITE. IT IS THE OWNER'S RESPONSIBILITY TO ASSURE THAT SURFACE RUN-OFF IS DIVERTED AWAY FROM THE WALL.
- SELECT BACKFILL GRADATION AND COMPACTION:
 - BACKFILL GRADATION AND COMPACTION BETWEEN STEMS AND AROUND PIPES ARE IMPORTANT TO THE WALL STABILITY. THE OWNER'S GEOTECHNICAL ENGINEER SHOULD PROVIDE SUFFICIENT TESTING TO INSURE COMPLIANCE WITH THE SELECT BACKFILL GRADATION AND COMPACTION SPECIFICATIONS NOTED ON THIS SHEET. PLACEMENT OF LOOSE LIFT OF BACKFILL SHALL NOT EXCEED 12 INCHES.
- T-WALL® FACE FORM FINISH:
 - PLAIN STEEL FORM FINISH
- SCOUR PROTECTION NOTE:
 - THE NEEL COMPANY HAS NOT PERFORMED ANY SCOUR ANALYSIS FOR THIS WALL.
 - THE NEEL COMPANY ASSUMES THAT THE BOTTOM OF WALL ELEVATIONS SHOWN ON THESE PLANS ARE BELOW SCOUR DEPTH FOR THIS LOCATION. THE ENGINEER/CONTRACTOR MUST VERIFY THIS ASSUMPTION. IF THIS ASSUMPTION IS NOT CORRECT, THE NEEL COMPANY MUST BE NOTIFIED SO THAT THE WALL DESIGN MAY BE REVIEWED.

T-WALL® LEGEND MARKERS:

6R = 6'-0" STEM LENGTH WITH A STEM HEIGHT OF 2'-2", REDUCE BY 4"
SP1 = SPECIAL UNIT AND MARK NUMBER.

GENERAL NOTES:

- PRIMARY REFERENCE:
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 4TH EDITION, 2007 WITH INTERIM REVISIONS.
- SELECT BACKFILL BETWEEN STEMS:
 - ANGLE OF INTERNAL FRICTION - 34° (MINIMUM)
 - DENSITY - 120 pcf (MINIMUM)
 - 15% MAXIMUM PASSING #200 SIEVE
 - 100% PASSING 3" SIEVE
 - 95% STANDARD COMPACTION (ASTM D-698)
- UNCLASSIFIED BACKFILL BEHIND STEMS:
 - ANGLE OF INTERNAL FRICTION - 30°
 - DENSITY - 120 pcf
 - 95% STANDARD COMPACTION (ASTM D-698)
- HORIZONTAL JOINT:
 - 1/2 INCH FIBER EXPANSION JOINT MATERIAL PER ASTM D-1751 AS SHOWN ON DEVELOPED ELEVATIONS.
- VERTICAL JOINT:
 - 3/8 INCH SPACE
 - 12 INCHES WIDE FILTER CLOTH BACKING CENTERED AT JOINT, UNLESS OTHERWISE NOTED.
 - FILTER CLOTH BACKING: MIRAFI 160N OR EQUAL
- OVERALL DIMENSIONAL TOLERANCES FOR FINISHED WALL:
 - VERTICAL ALIGNMENT (PLUMBNESS) - 3/4 INCH IN 10 FEET
 - HORIZONTAL ALIGNMENT (LINE) - 3/4 INCH IN 10 FEET
- FOUNDATION:
 - PROOF-ROLL THE FOUNDATION SUBGRADE ALONG THE ENTIRE WALL LENGTH PRIOR TO CONSTRUCTION OF THE T-WALL®. A GEOTECHNICAL ENGINEER MUST INSPECT THE EXCAVATED FOUNDATION SUBGRADE AND PROOF-ROLLING ACTIVITIES. ANY SOFT OR UNSUITABLE MATERIALS IDENTIFIED BY INSPECTION SHALL BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL BACKFILL AS DIRECTED BY THE ENGINEER. CONTRACTOR TO PROVIDE SUFFICIENT DEWATERING SO THAT THE EXCAVATIONS ARE DRY ENOUGH FOR INSPECTION, TESTING AND CONSTRUCTION.
- CAST-IN-PLACE CONCRETE LEVELING PAD:
 - 6 INCHES MINIMUM x 12 INCHES
 - CONCRETE STRENGTH: 2500 psi (MINIMUM) @ 28 DAYS
 - NO REBAR
 - GRADE TOLERANCE - 1/4 INCH IN 10 FEET
- T-WALL® UNIT REBAR:
 - ASTM A615
 - Fy = 60 ksi (GRADE 60)
 - EPOXY COATED
 - WELDING IS NOT PERMITTED
- T-WALL® UNIT CONCRETE STRENGTH:
 - 5000 psi (MINIMUM) @ 28 DAYS
- SHEAR KEYS:
 - NO REBAR
 - CONCRETE STRENGTH: 5000 psi (MINIMUM) @ 28 DAYS
 - WALL IS DESIGNED FOR SPECIFIC NUMBER OF SHEAR KEYS AS SHOWN IN TYPICAL SECTION ON SHEET xxxx. LOCATION OF SHEAR KEYS CAN BE ADJUSTED IF NECESSARY AT A SPECIFIC LEVEL.
 - SHEAR KEY WRAP:
 - 1/4 INCH POLYETHYLENE FOAM WRAP TWO TIMES AROUND THE SHEAR KEY.
 - SHEAR KEY WRAP: AF250 POLYETHYLENE FOAM
- CONSTRUCTION:
 - TO BE IN ACCORDANCE WITH T-WALL® CONSTRUCTION MANUAL (v07.04) AND TYPICAL T-WALL® NOMENCLATURE ON SHEET TW-2.
 - T-WALL® CONSTRUCTION MANUAL (v07.04) CAN BE DOWNLOADED FROM OUR WEB SITE AT www.neelco.com, UNDER "Downloads".
 - CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF ALL EXCAVATED SLOPES. DESIGN AND CONSTRUCTION OF ANY REQUIRED TEMPORARY SUPPORT OF EXCAVATION SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.
 - ALL SURFACE RUNOFF IS TO BE DIVERTED AWAY FROM EXCAVATIONS TO AVOID THE DETERIORATION OF THE SUBGRADE SOILS DUE TO EXPOSURE TO MOISTURE.




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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

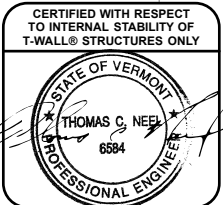
CONTRACTOR:
PROJECT #:

DESIGNER



THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437



REVISIONS		

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET

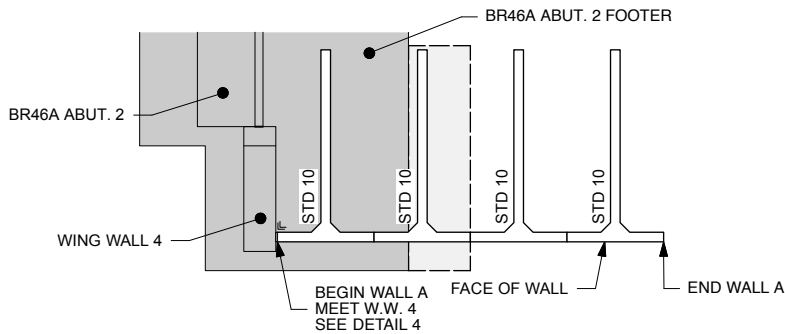
WATERBURY, VT
IM 089-2(43)

SHOP DRAWINGS

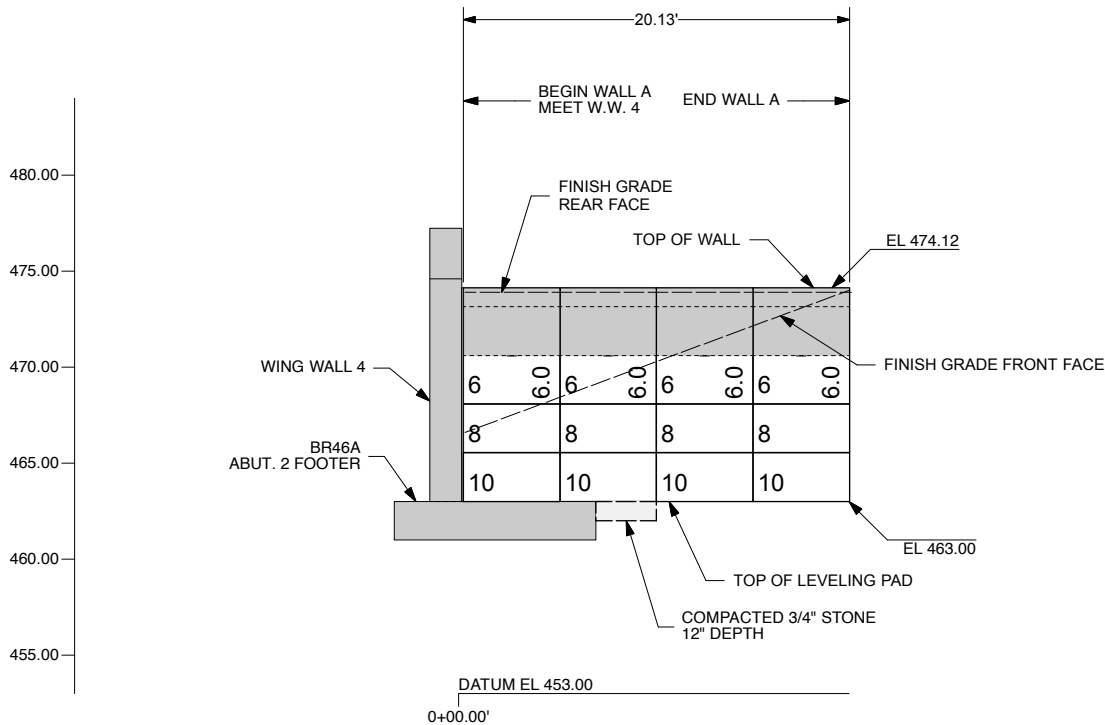
GENERAL T-WALL® NOTES AND QUANTITIES

T-WALL® RETAINING WALL SYSTEM

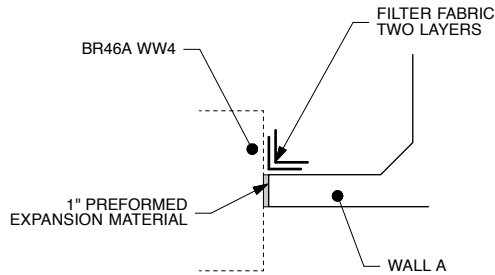
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DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-4



1 PLAN VIEW (BOTTOM LEVEL)
Scale: 1:60



2 DEVELOPED ELEVATION (FRONT FACE)
Scale: 1:60



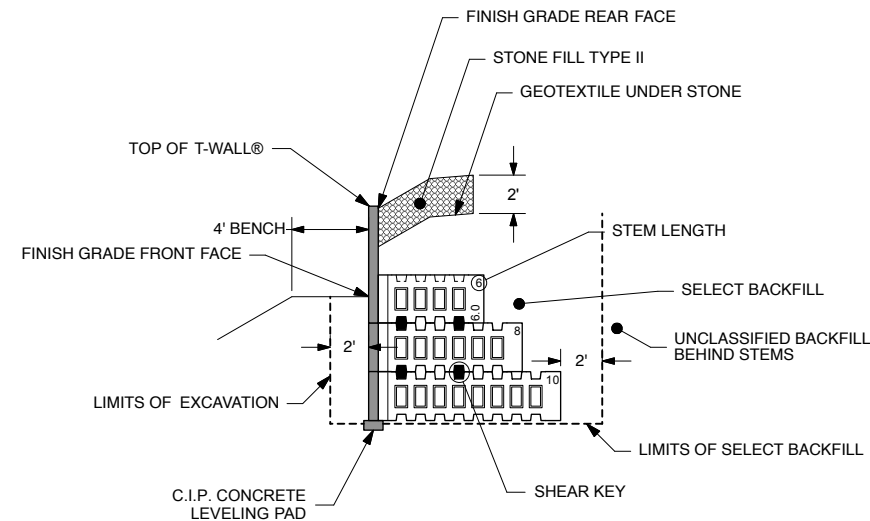
4 BEGIN WALL DETAIL
Scale: 1:18

T-WALL Unit Count for Wall A			1/23/15 2:48:49 PM
PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	4	50.00	13
2.5 x 5.0 x 10 Std	4	50.00	17
6.0 x 5.0 x 06 Std Top	4	120.00	10
TOTALS:		220.00 sf	40 cy

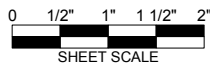
NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	16 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	40.00 LF
Filter Cloth (12" wide)***	56.00 LF



3 TYP. SECTION
Scale: 1:60



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:

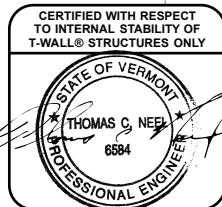
PROJECT #:

DESIGNER

THE NEEL COMPANY

8328-D TRAFORD LANE
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PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437



REVISIONS		

I-89 BRIDGE DECK REPLACEMENTS

I-89 OVER STOWE STREET

WATERBURY, VT

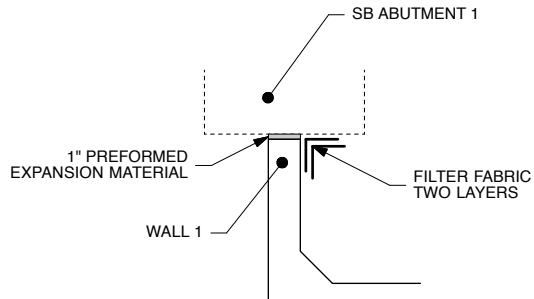
IM 089-2(43)

SHOP DRAWINGS

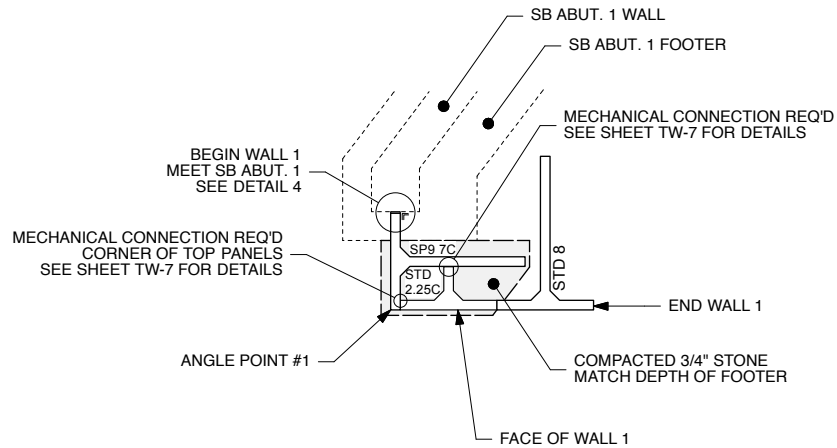
WALL A ELEVATION, PLAN AND SECTION

T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-5



4 BEGIN WALL DETAIL
Scale: 1:18

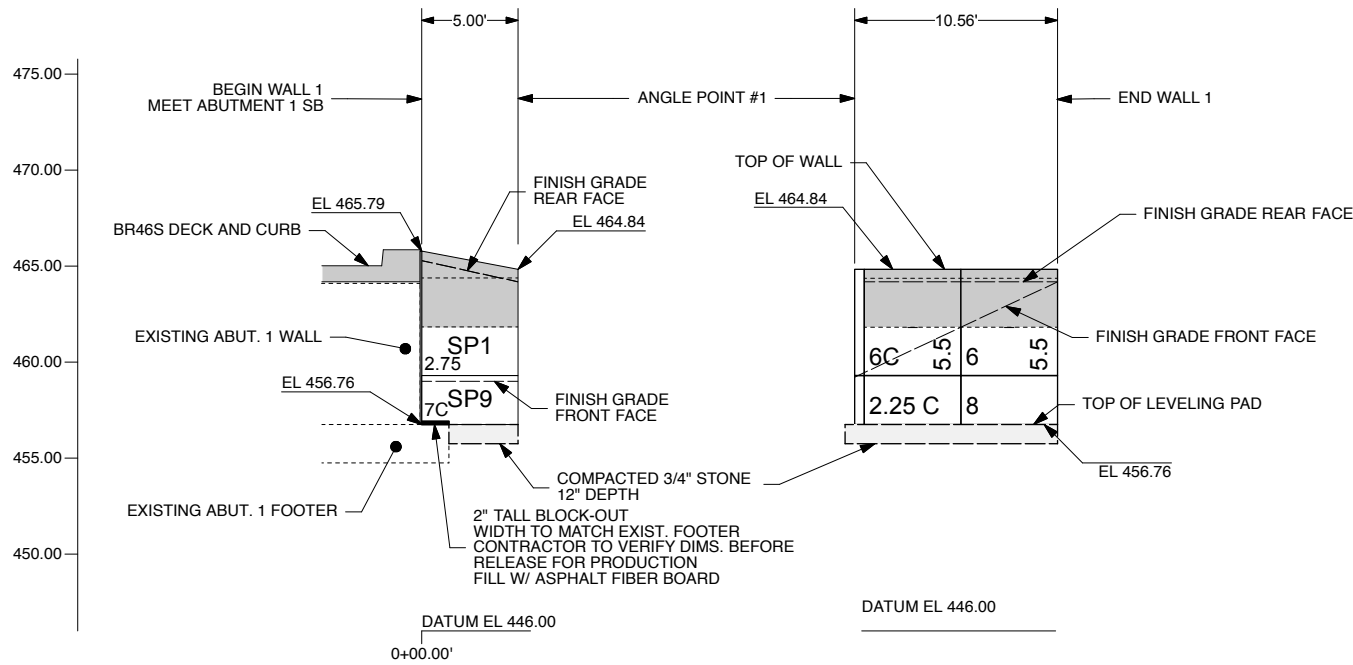


1 PLAN VIEW (BOTTOM LEVEL)
Scale: 1:60

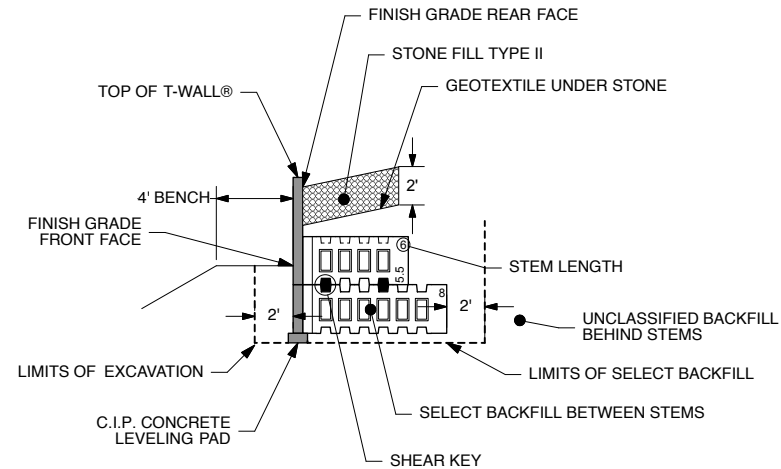
T-WALL Unit Count for Wall 1				1/23/15 3:01:05 PM
PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)	
2.5 x 5.0 x 08 Std	1	12.50	3	
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1	
5.5 x 5.0 x 06 Std Top	1	27.50	2	
5.5 x 5.0 x 06 Std Top Cnr	1	27.50	2	
Special Units	2	42.57	4	
TOTALS:	6 ea	122.57 sf	13 cy	

NOTE: Select backfill quantities are between stems only.

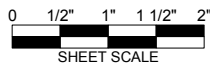
SHIP LOOSE LIST FOR RETAINING WALL:	
ITEM	QNTY
Shear Keys	3 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	15.00 LF
Filter Cloth (12" wide)***	40.00 LF



2 DEVELOPED ELEVATION (FRONT FACE)
Scale: 1:60



3 TYP. SECTION AT SOUTH FACE
Scale: 1:60



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CONTRACTOR:
PROJECT #:

DESIGNER



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REVISIONS

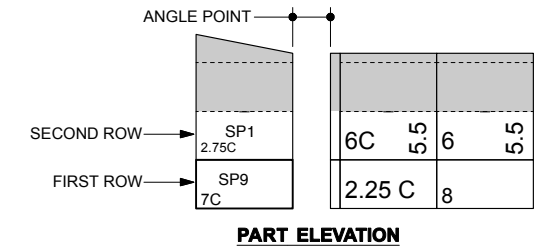
**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

**WATERBURY, VT
IM 089-2(43)**

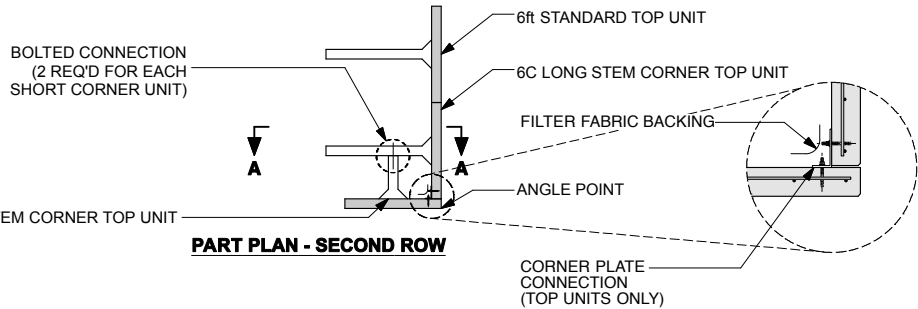
SHOP DRAWINGS
WALL 1 ELEVATION, PLAN, SECTION

T-WALL® RETAINING WALL SYSTEM

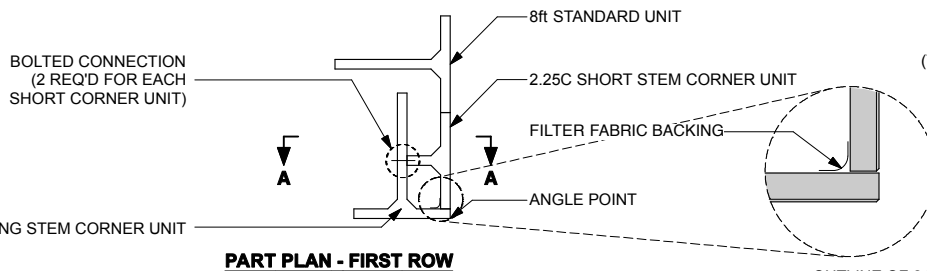
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-6



PART ELEVATION



PART PLAN - SECOND ROW

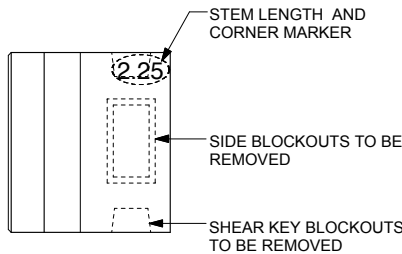


PART PLAN - FIRST ROW

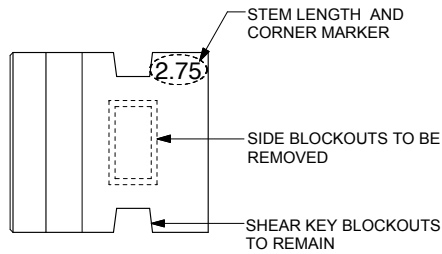
STEM LENGTHS VARY - SEE SPECIFIC
ELEVATIONS FOR PROPER UNITS

TYPICAL CORNER UNIT ARRANGEMENT

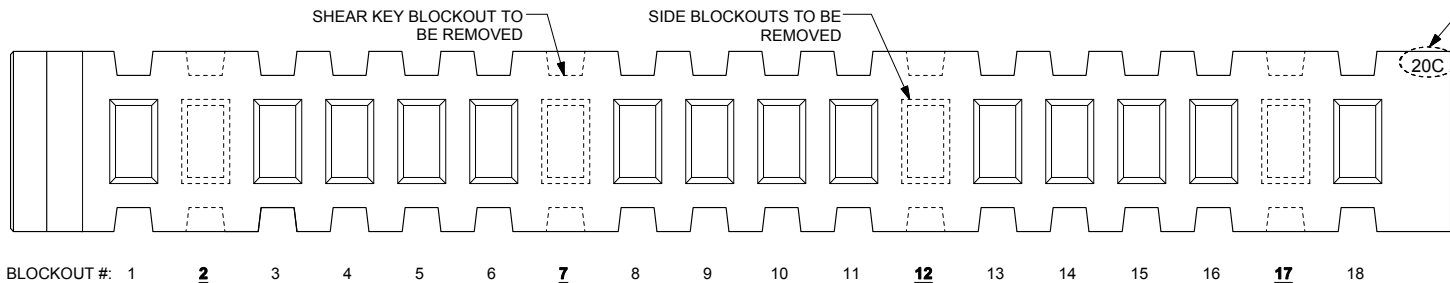
NO SCALE



SIDE VIEW - 2.25C SHORT STEM CORNER UNIT
SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



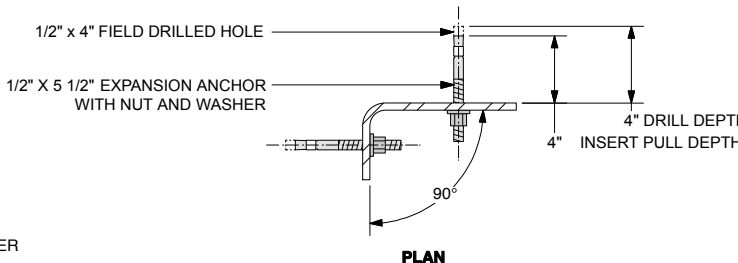
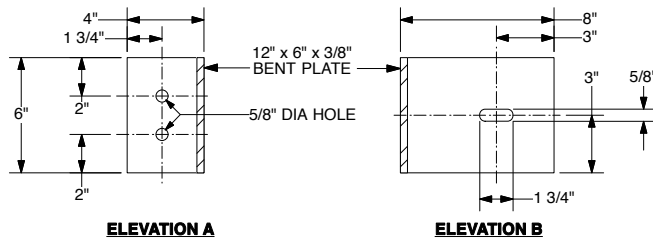
SIDE VIEW - 2.75C SHORT STEM CORNER UNIT
SIDE BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



BLOCKOUT: #2, 7, 12 & 17, AS SHOWN

SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM
LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).
SEE NOTE 2.

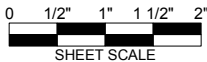
SIDE VIEW - 20C LONG STEM CORNER UNIT



CORNER PLATE CONNECTION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOWS:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

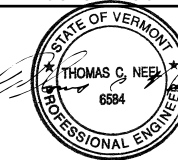
DESIGNER



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WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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REVISIONS

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

**WATERBURY, VT
IM 089-2(43)**

SHOP DRAWINGS

WALL 1 90 DEG. CORNER DETAIL

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

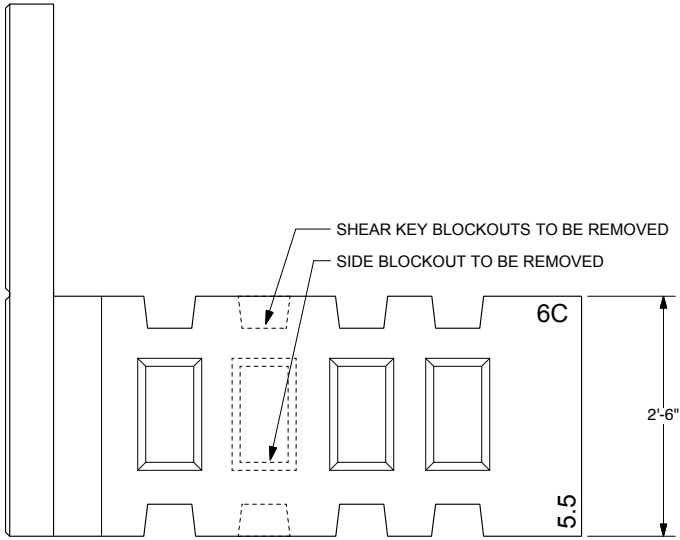
DESIGNED BY: KB

DRAWN BY: CTH

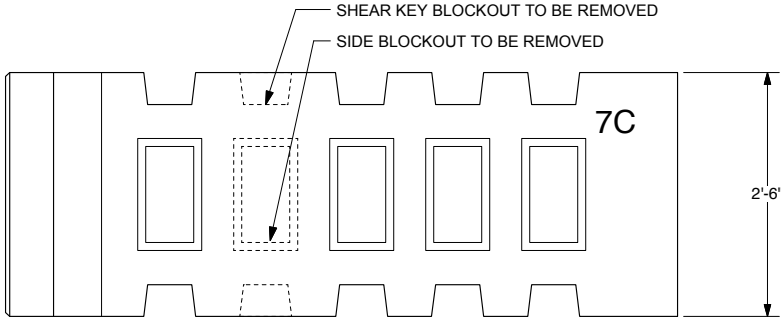
CHECKED BY: KB

SHEET: TW-7

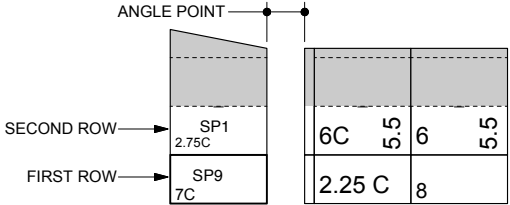
6' LONG STEM BY 5' HEIGHT TOP CORNER UNIT
(SEE SHEET TW-40 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT SP9
(SEE SHEET TW-50 FOR MORE DETAIL)



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM



PARTIAL ELEVATION AT ANGLE POINT

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS:
EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS .

GENERAL NOTES:

- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH



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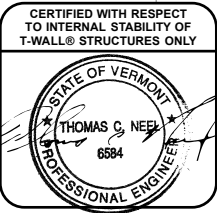
PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

DESIGNER

THE NEEL COMPANY
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PH: (703) 913-7858
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PROJECT #: TW4437



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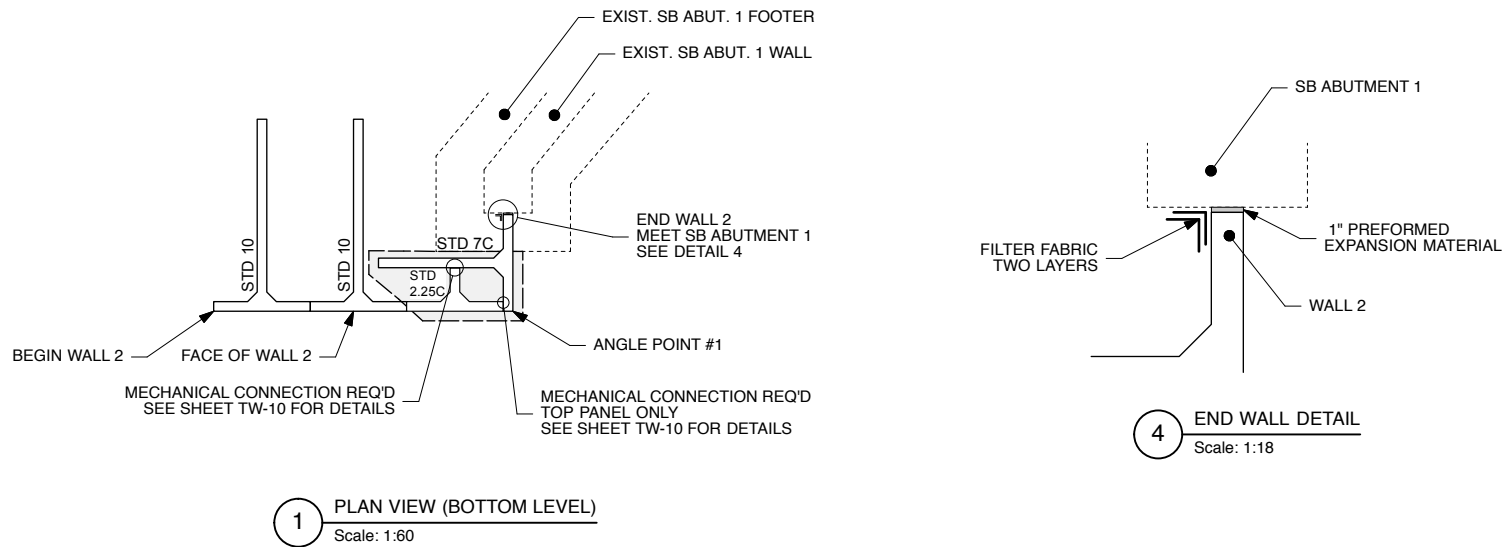
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
WALL 1 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-8

BORDER-TNC T-WALL HWY v4.1

USER NAME: N/A
VECTORWORKS 2014

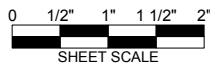
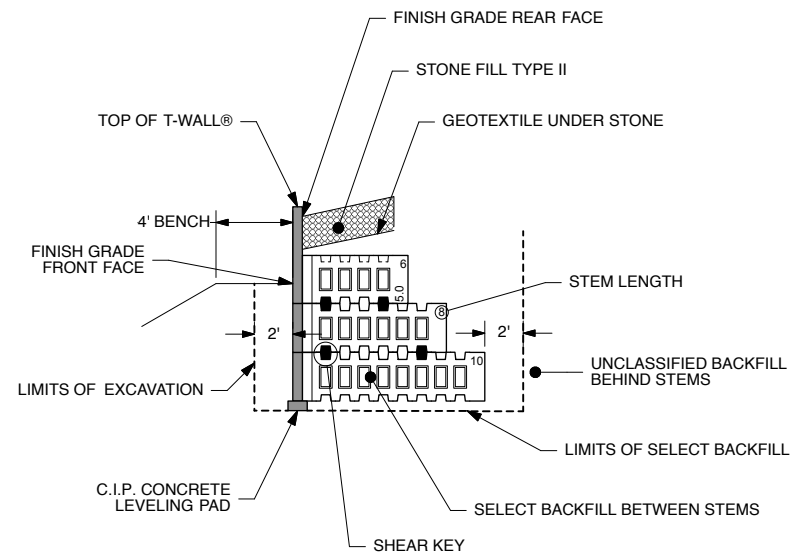
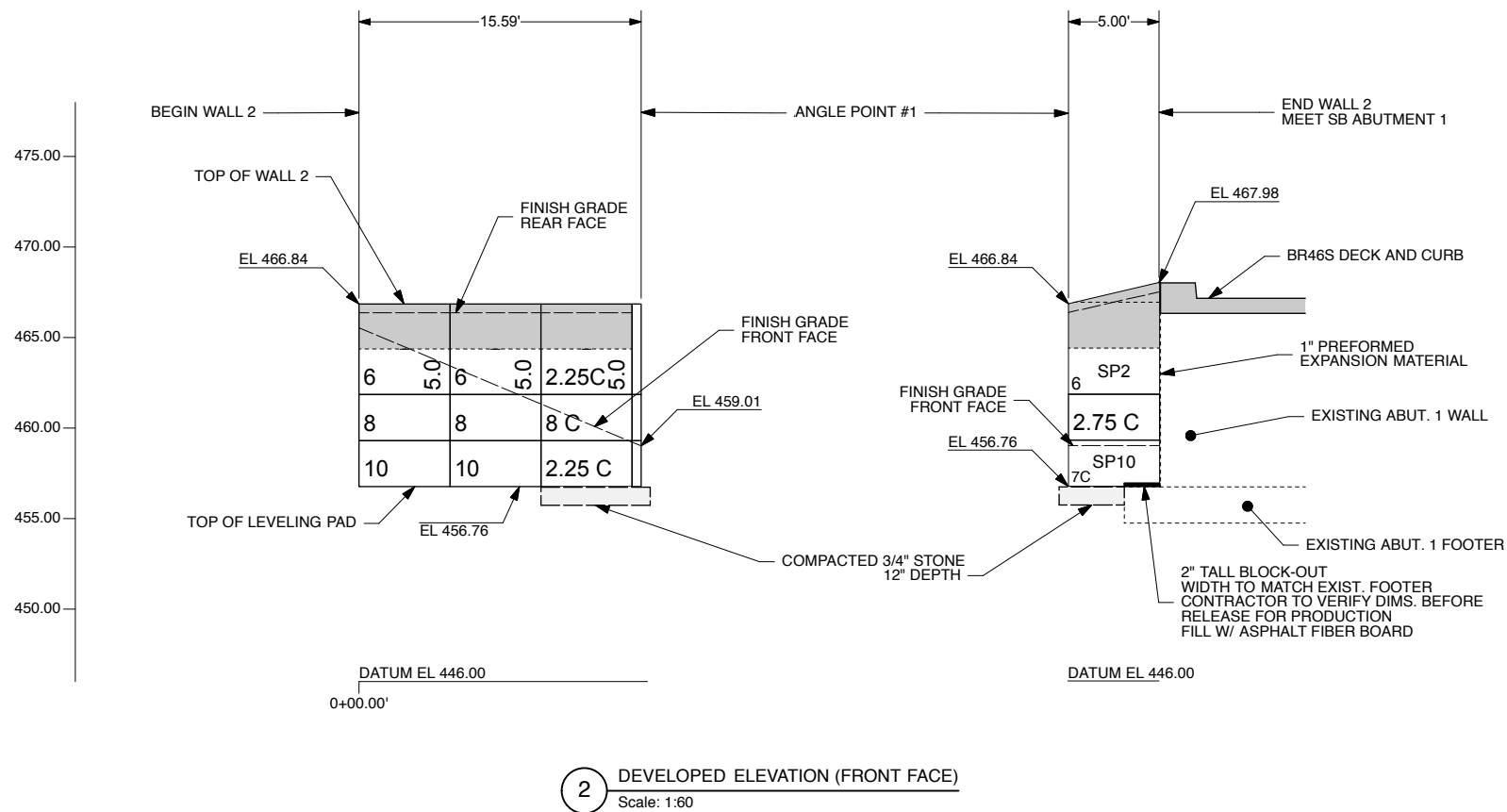
PLOT DATE & TIME: Monday, January 26, 2015 2:45:59 PM
CAD FILE NAME: 09 BR46S Wall 2.vwx
VW SHEET NAME: TW-3



T-WALL Unit Count for Wall 2			
PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	2	25.00	7
2.5 x 5.0 x 10 Std	2	25.00	8
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 02.75 Std Cnr	1	12.50	1
2.5 x 5.0 x 08 Std Cnr	1	12.50	3
5.0 x 5.0 x 06 Std. Top	2	50.42	5
5.0 x 5.0 x 02.25 Std. Top Cnr	1	25.21	1
Special Units	2	40.55	5
TOTALS:	12 ea	203.68 sf	31 cy

NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:	
ITEM	QNTY
Shear Keys	10 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	40.00 LF
Filter Cloth (12" wide)***	65.00 LF



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

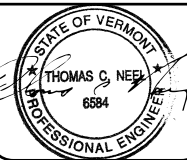
DESIGNER



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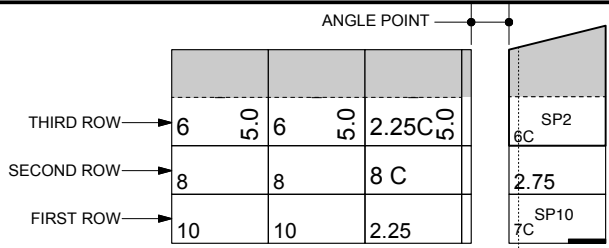
**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

**WATERBURY, VT
IM 089-2(43)**

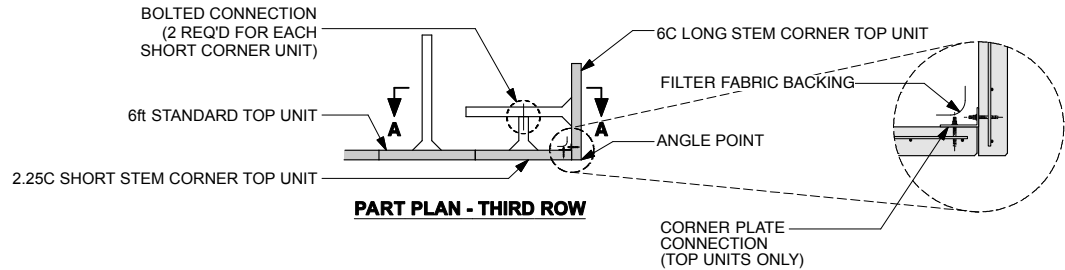
SHOP DRAWINGS
WALL 2 ELEVATION, PLAN, SECTION

T-WALL® RETAINING WALL SYSTEM

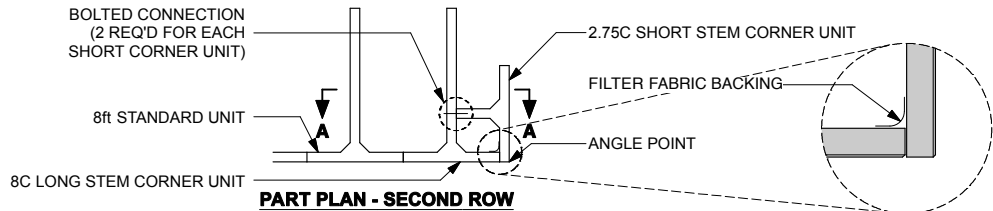
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-9



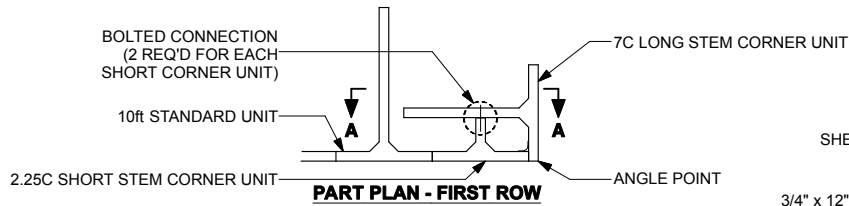
WALL 2 ELEVATION



PART PLAN - THIRD ROW

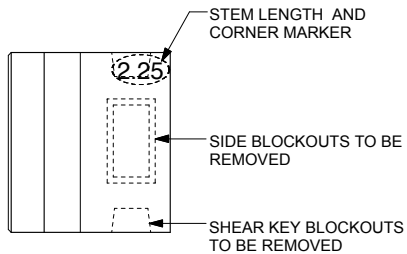


PART PLAN - SECOND ROW

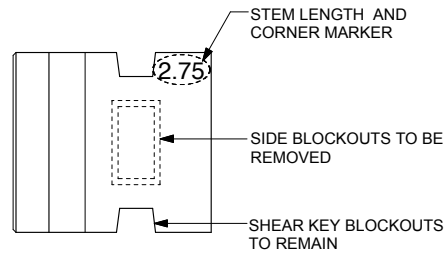


PART PLAN - FIRST ROW

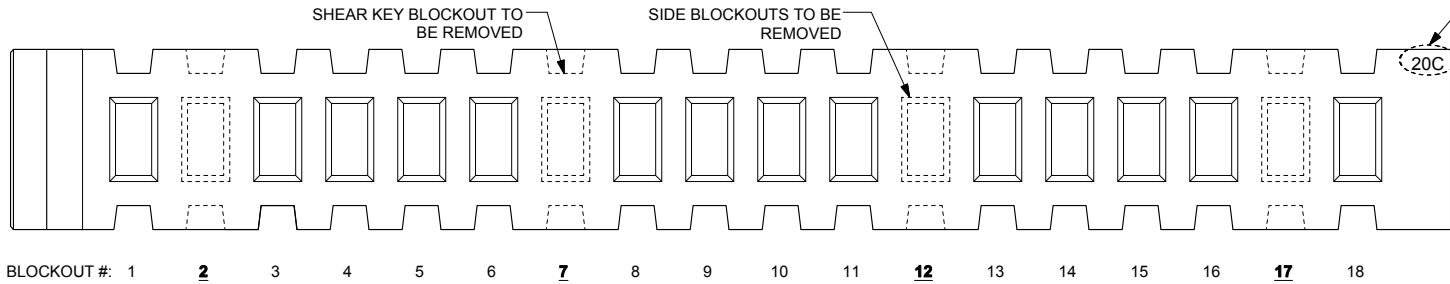
STEM LENGTHS VARY - SEE SPECIFIC ELEVATIONS FOR PROPER UNITS
TYPICAL CORNER UNIT ARRANGEMENT
NO SCALE



SIDE VIEW - 2.25C SHORT STEM CORNER UNIT
SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



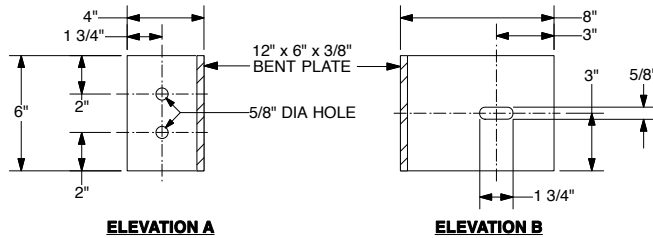
SIDE VIEW - 2.75C SHORT STEM CORNER UNIT
SIDE BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



BLOCKOUT #: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
BLOCKOUT: #2, 7, 12 & 17, AS SHOWN

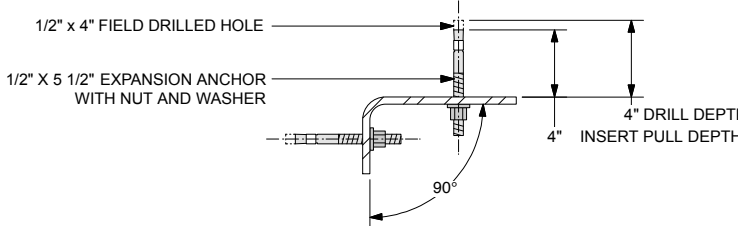
SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).
SEE NOTE 2.

SIDE VIEW - 20C LONG STEM CORNER UNIT



ELEVATION A

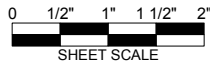
ELEVATION B



PLAN
CORNER PLATE CONNECTION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOWS:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



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PROJECT #: T22259

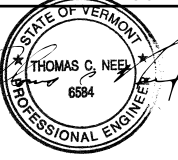
CONTRACTOR:
PROJECT #:

DESIGNER

THE NEEL COMPANY
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PROJECT #: TW4437

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REVISIONS

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET

WATERBURY, VT
IM 089-2(43)

SHOP DRAWINGS

WALL 2 90 DEG. CORNER DETAIL

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

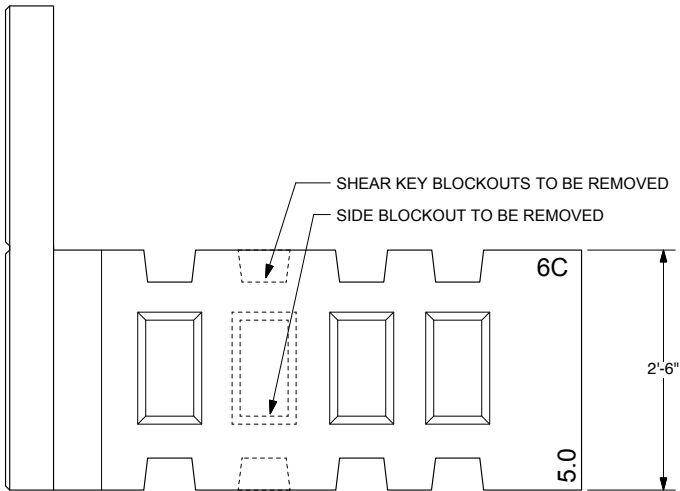
DESIGNED BY: KB

DRAWN BY: CTH

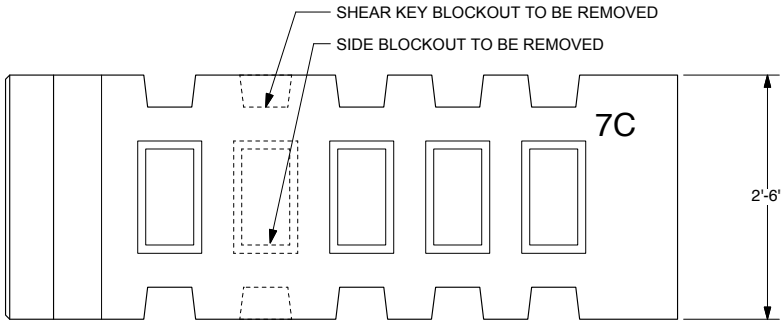
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SHEET: TW-10

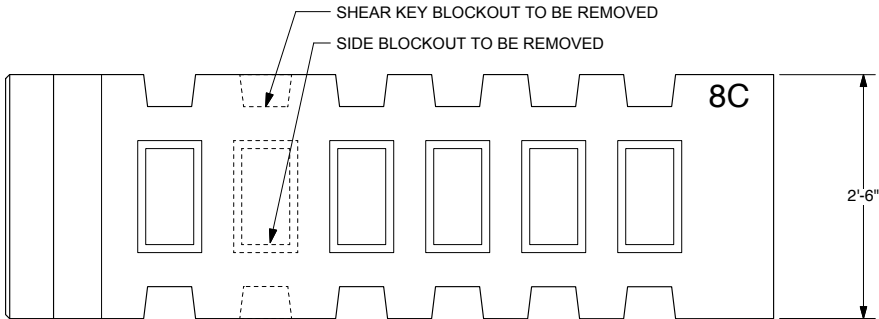
6' LONG STEM BY 5' HEIGHT CORNER UNIT SP2
(SEE SHEET TW-46 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT SP10
(SEE SHEET TW-52 FOR MORE DETAIL)



8' LONG STEM CORNER UNIT
(SEE SHEET TW-32 FOR MORE DETAIL)



	ANGLE POINT			
THIRD ROW	6	6	2.25C	SP2
SECOND ROW	8	8	8 C	2.75
FIRST ROW	10	10	2.25	SP10

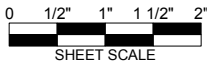
WALL 2 ELEVATION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS .

GENERAL NOTES:

- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM


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HUDSON, NH
PROJECT #: T22259

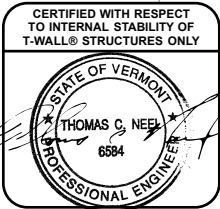
CONTRACTOR:
PROJECT #:

DESIGNER



THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437



REVISIONS		

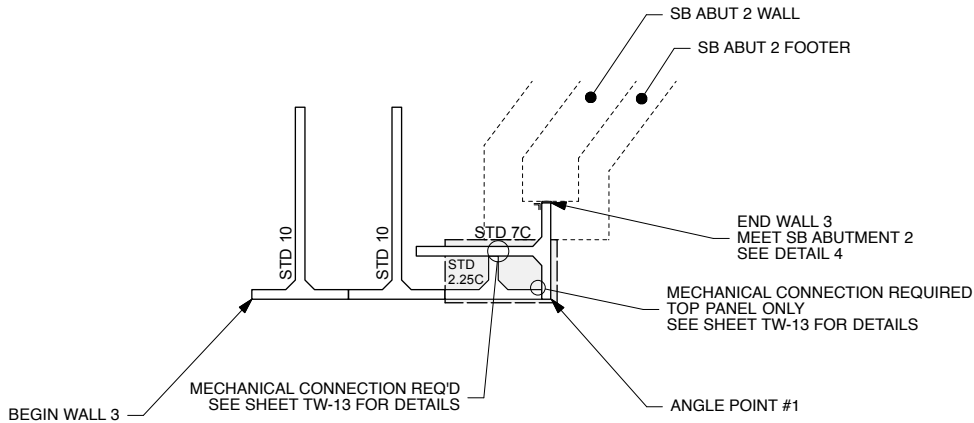
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
WALL 2 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-11

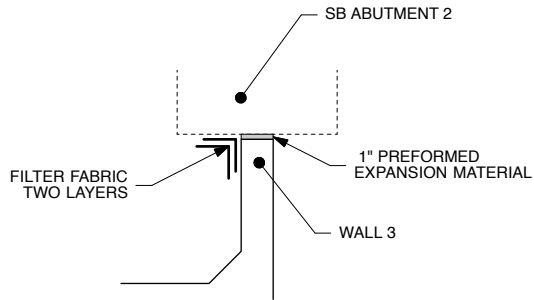
BORDER-TNC T-WALL HWY v4.1

USER NAME: N/A
VECTORWORKS 2014

PLOT DATE & TIME: Monday, January 26, 2015 2:46:50 PM
CAD FILE NAME: 12 BR46S Wall 3.vwx
VW SHEET NAME: TW-3



1 PLAN VIEW (BOTTOM LEVEL)
Scale: 1:60



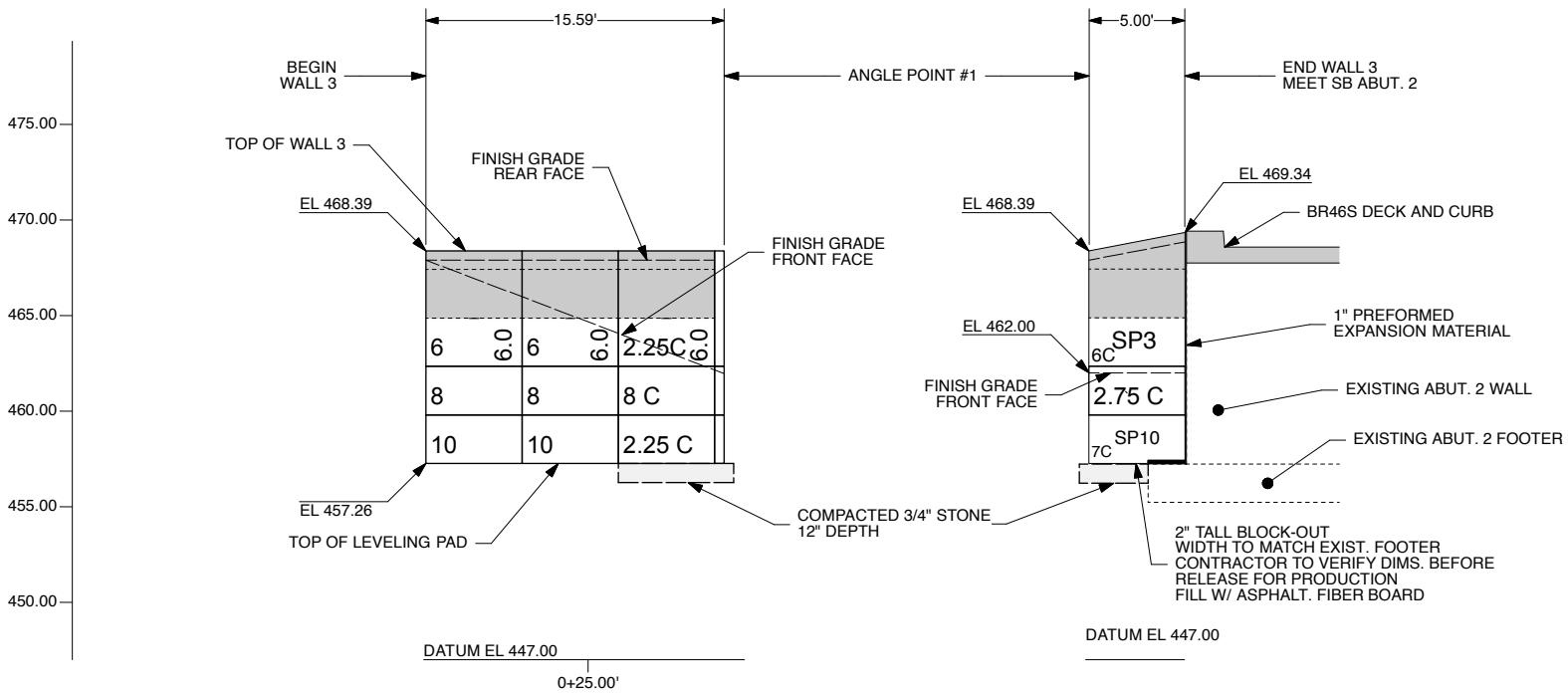
4 END WALL DETAIL
Scale: 1:18

T-WALL Unit Count for Wall 3			1/23/15 3:18:45 PM
PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	2	25.00	7
2.5 x 5.0 x 10 Std	2	25.00	8
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 02.75 Std Cnr	1	12.50	1
2.5 x 5.0 x 08 Std Cnr	1	12.50	3
6.0 x 5.0 x 06 Std Top	2	60.00	5
6.0 x 5.0 x 02.25 Std Top Cnr	1	30.00	1
Special Units	2	45.10	5
TOTALS:	12 ea	222.60 sf	31 cy

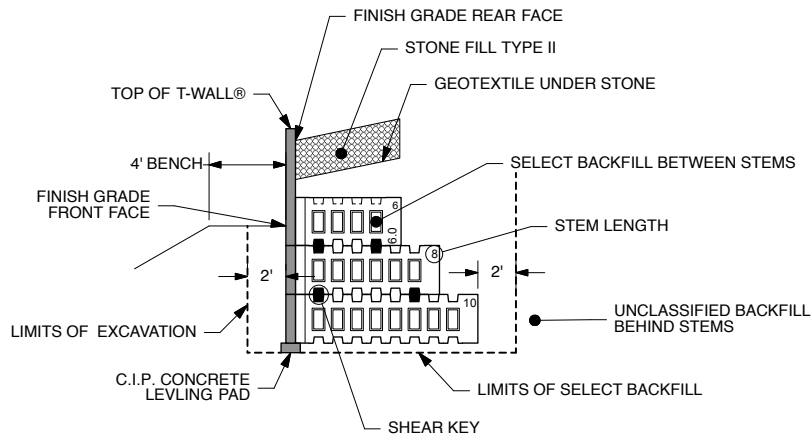
NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

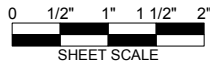
ITEM	QNTY
Shear Keys	10 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	40.00 LF
Filter Cloth (12" wide)***	68.00 LF



2 DEVELOPED ELEVATION (FRONT FACE)
Scale: 1:60



3 TYP. SECTION AT SOUTHWEST FACE
Scale: 1:60



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

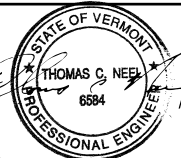
DESIGNER



THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET

WATERBURY, VT
IM 089-2(43)

SHOP DRAWINGS
WALL 3 ELEVATION, PLAN, SECTION

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

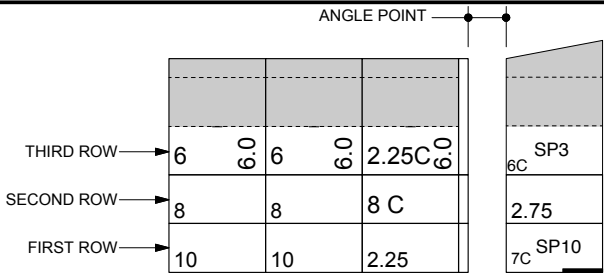
DATE: 1/23/2015

DESIGNED BY: KB

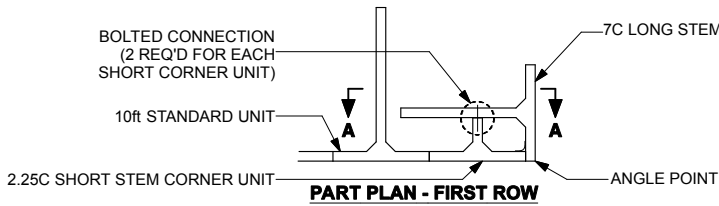
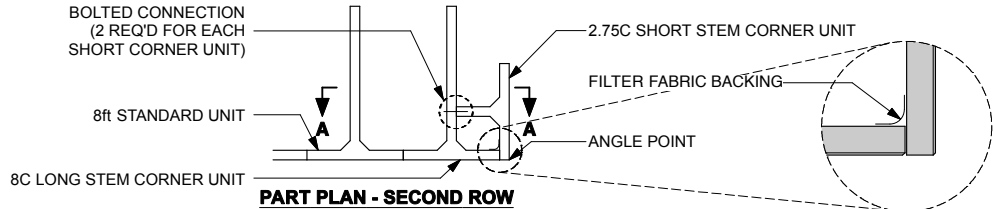
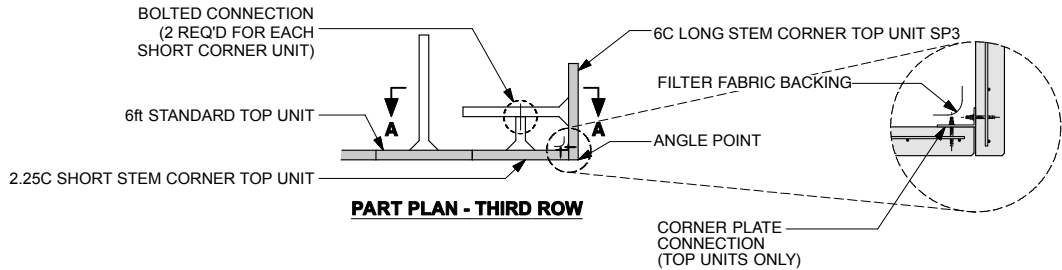
DRAWN BY: CTH

CHECKED BY: KB

SHEET: TW-12



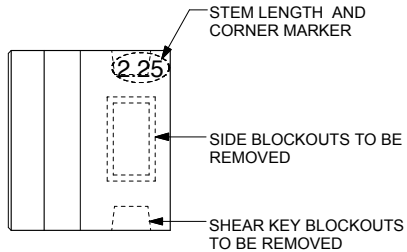
WALL 3 ELEVATION



STEM LENGTHS VARY - SEE SPECIFIC
ELEVATIONS FOR PROPER UNITS

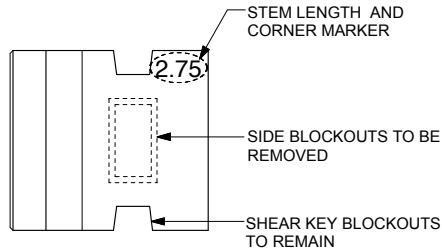
TYPICAL CORNER UNIT ARRANGEMENT

NO SCALE



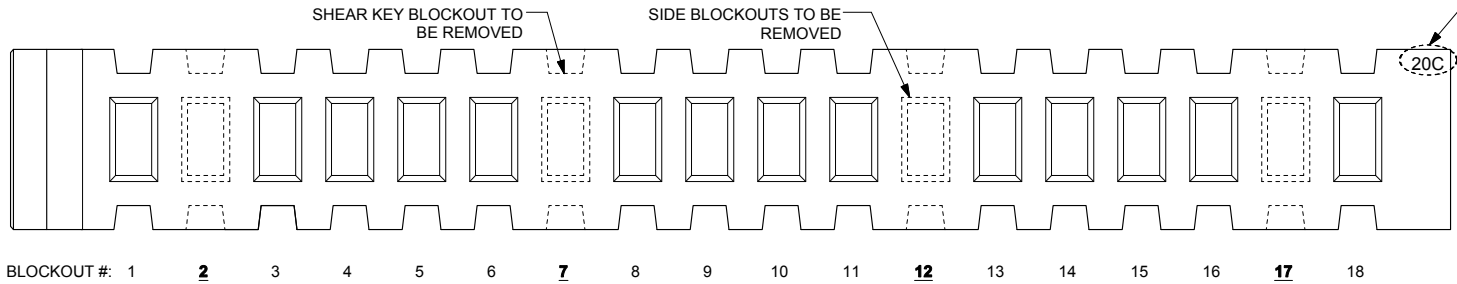
SIDE VIEW - 2.25C SHORT STEM CORNER UNIT

SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



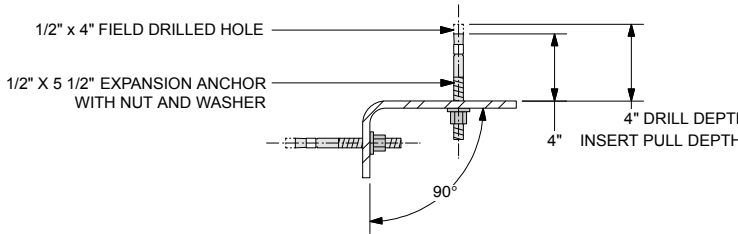
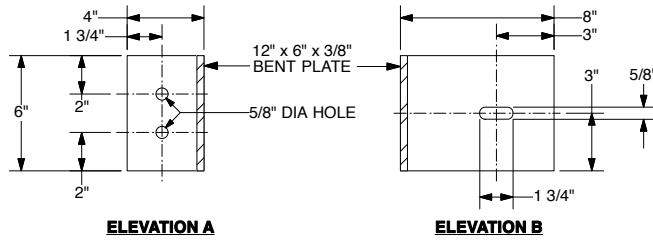
SIDE VIEW - 2.75C SHORT STEM CORNER UNIT

SIDE BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM
LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).
SEE NOTE 2.

SIDE VIEW - 20C LONG STEM CORNER UNIT

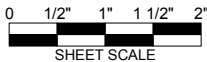
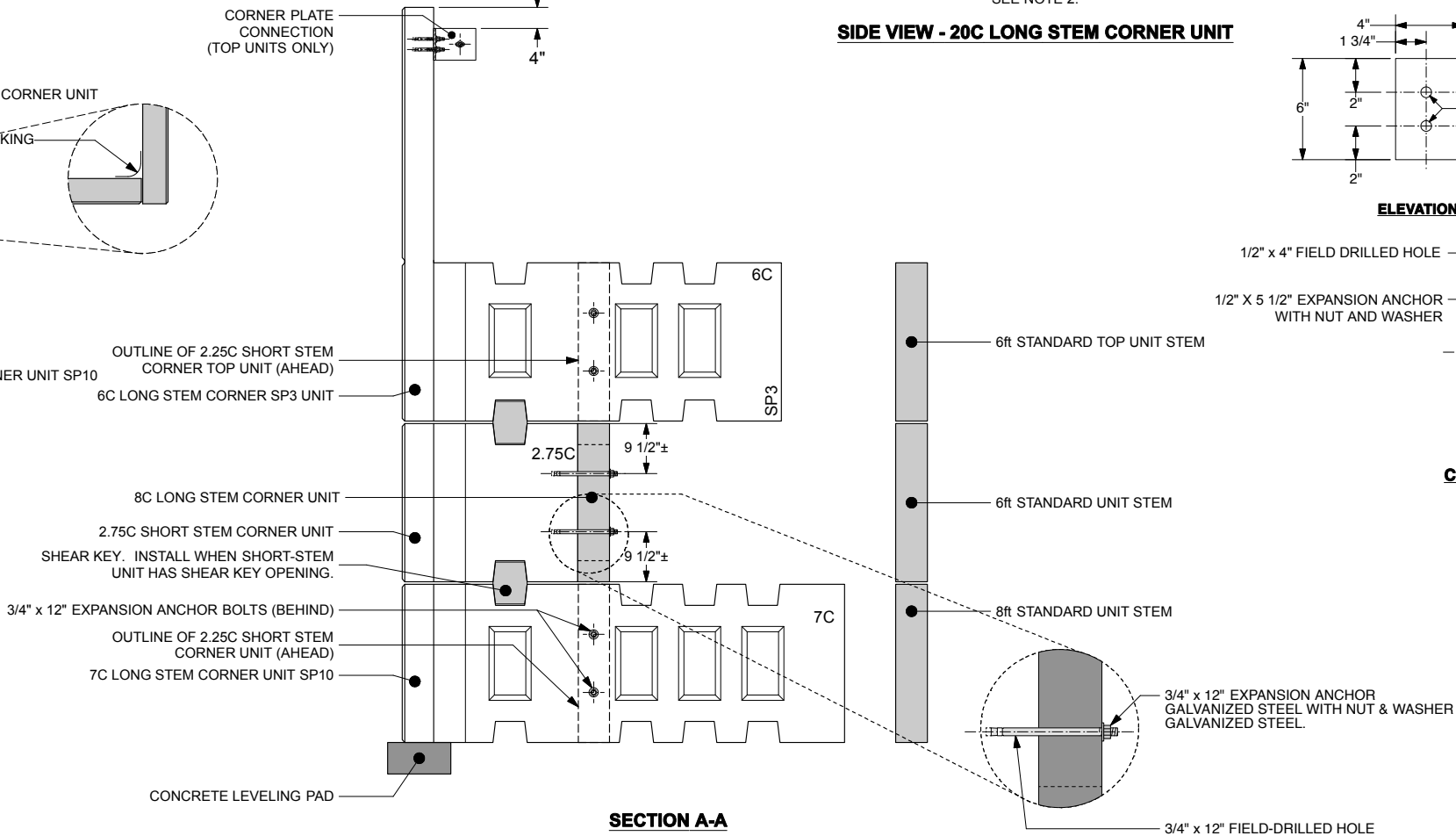


PLAN

CORNER PLATE CONNECTION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOVED:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



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HUDSON, NH
PROJECT #: T22259

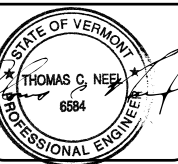
CONTRACTOR:
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

**WATERBURY, VT
IM 089-2(43)**

SHOP DRAWINGS

WALL 3 90 DEG. CORNER DETAIL

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

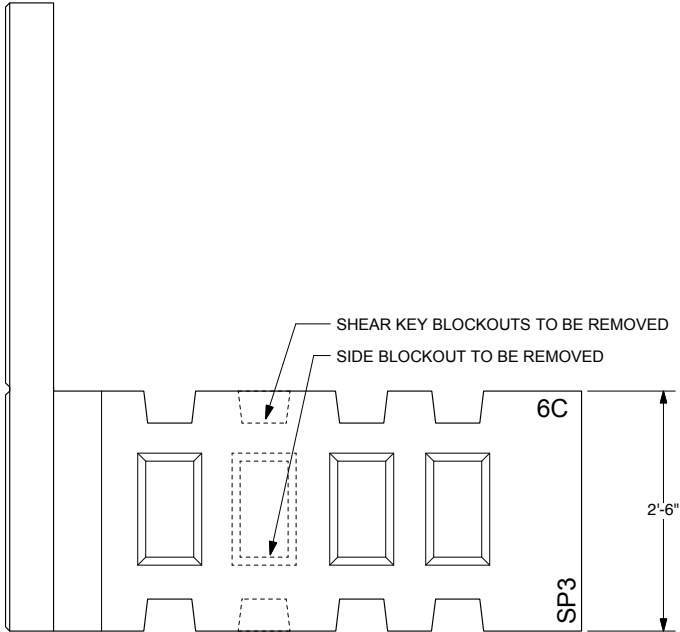
DESIGNED BY: KB

DRAWN BY: CTH

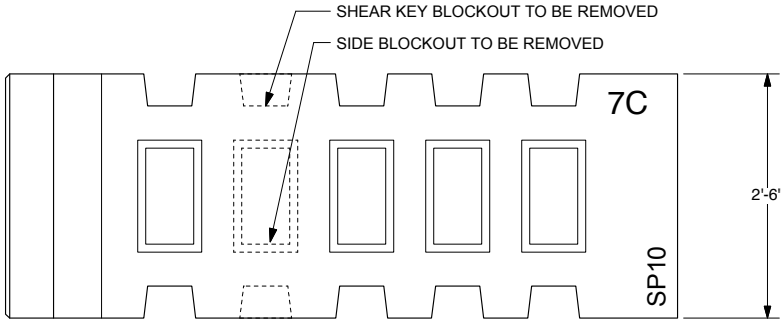
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SHEET: TW-13

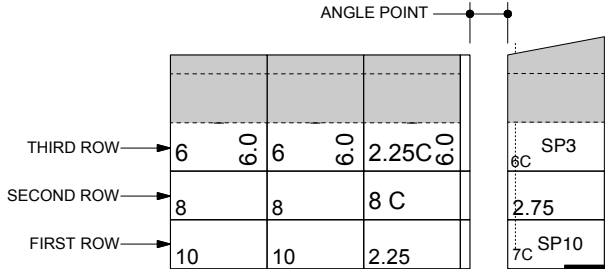
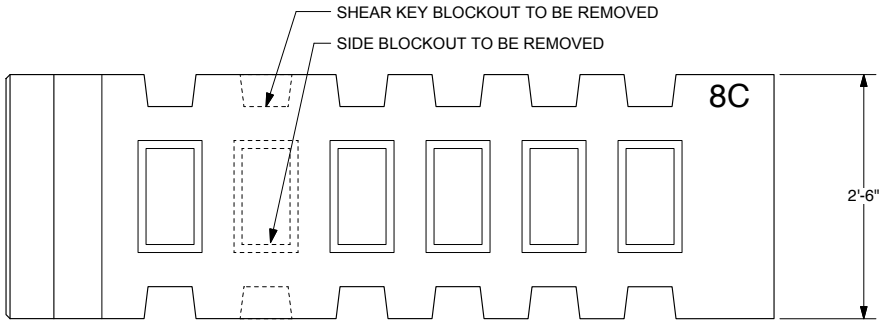
6' LONG STEM SP3 CORNER UNIT
(SEE SHEET TW-46 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT SP10
(SEE SHEET TW-52 FOR MORE DETAIL)



8' LONG STEM CORNER UNIT
(SEE SHEET TW-32 FOR MORE DETAIL)



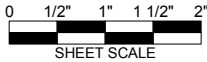
WALL 3 ELEVATION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS .

GENERAL NOTES:

- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM

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HUDSON, NH
PROJECT #: T22259

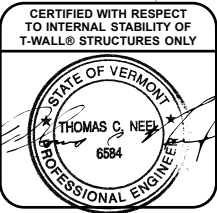
CONTRACTOR:
PROJECT #:

DESIGNER

THE NEEL COMPANY

8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
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PROJECT #: TW4437



REVISIONS		

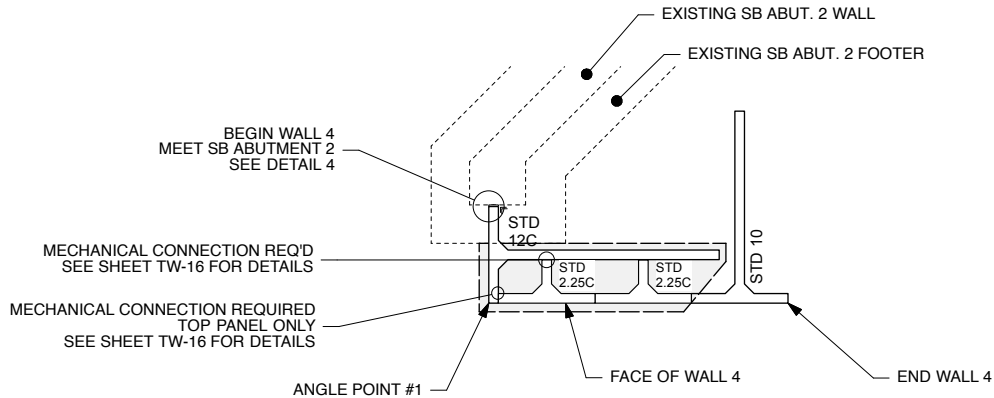
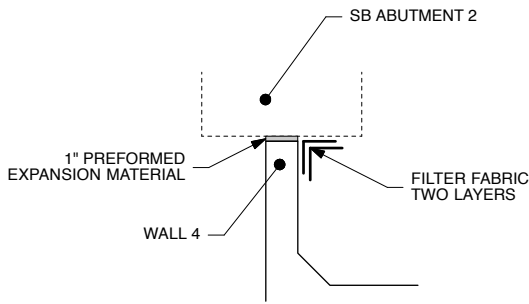
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
WALL 3 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-14

BORDER-TNC T-WALL HWY v4.1

USER NAME: N/A
VECTORWORKS 2014

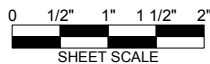
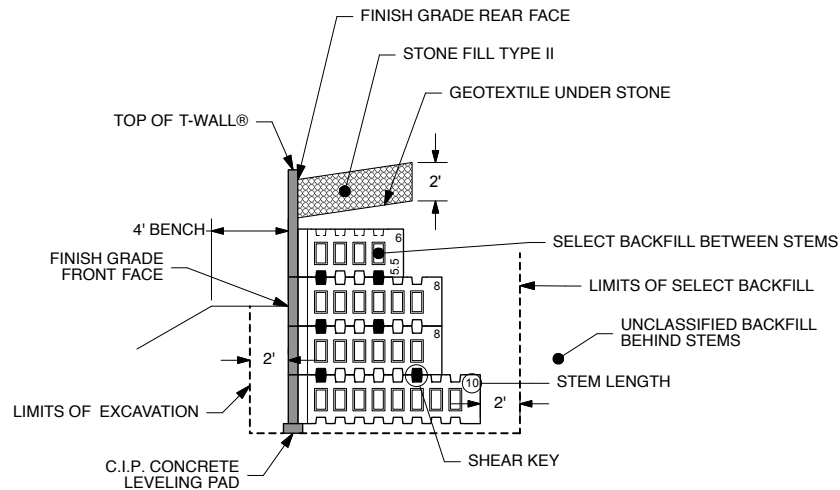
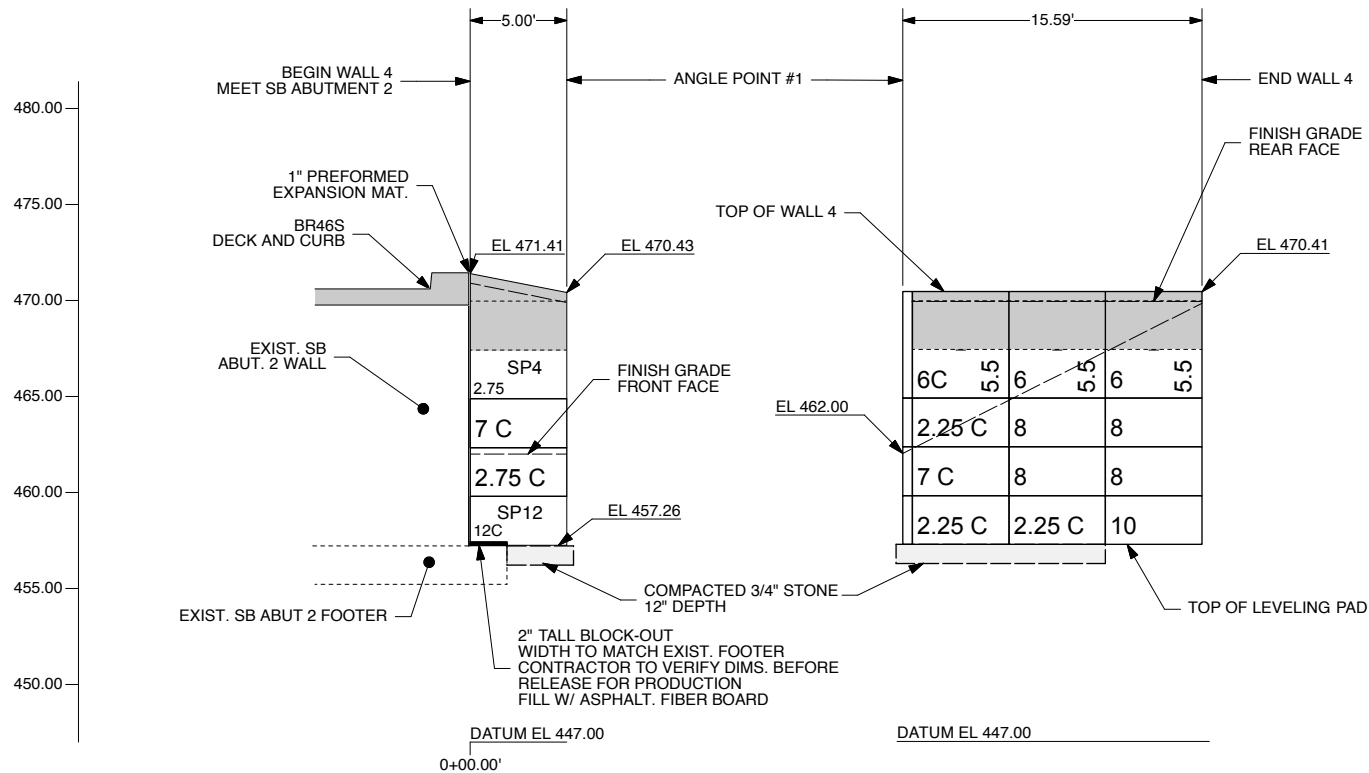
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VW SHEET NAME: TW-3



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2.5 x 5.0 x 08 Std	4	50.00	13
2.5 x 5.0 x 10 Std	1	12.50	4
2.5 x 5.0 x 02.25 Std Cnr	3	37.50	2
2.5 x 5.0 x 02.75 Std Cnr	1	12.50	1
2.5 x 5.0 x 07 Std Cnr	2	25.00	6
5.5 x 5.0 x 06 Std Top	2	55.00	5
5.5 x 5.0 x 06 Std Top Cnr	1	27.50	2
Special Units	2	42.50	6
TOTALS:	16 ea	262.50 sf	40 cy

NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:	
ITEM	QNTY
Shear Keys	13 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	60.00 LF
Filter Cloth (12" wide)***	68.00 LF



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:

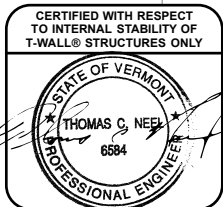
PROJECT #:

DESIGNER

THE NEEL COMPANY

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SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
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PROJECT #: TW4437



REVISIONS		

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

**WATERBURY, VT
IM 089-2(43)**

SHOP DRAWINGS
WALL 4 ELEVATION, PLAN, SECTION

T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-15

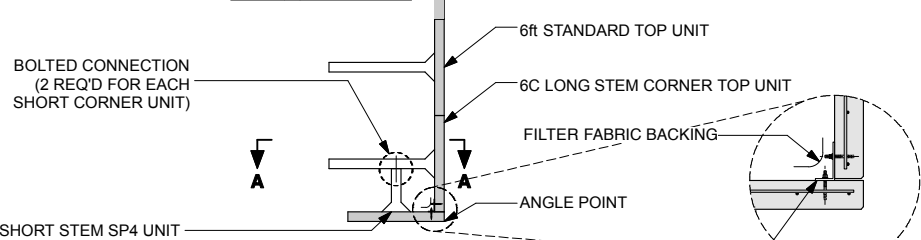
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USER NAME: N/A
VECTORWORKS 2014

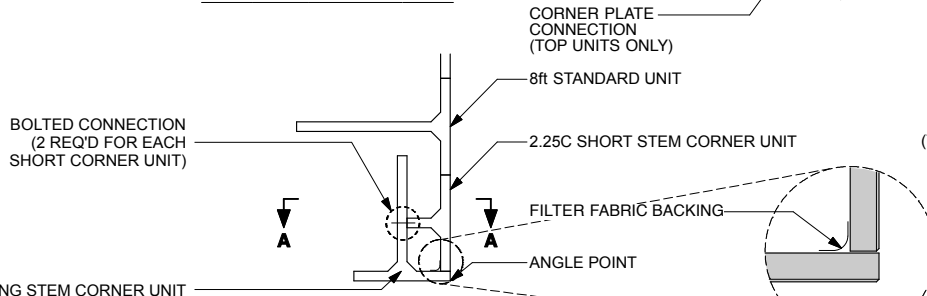
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VW SHEET NAME: Border

ANGLE POINT					
FOURTH ROW	SP4 2.75C	6C 5.5	6	5.5	6
THIRD ROW	7 C	2.25 C	8		8
SECOND ROW	2.75 C	7 C	8		8
FIRST ROW	SP12 12C	2.25 C	2.25 C	10	

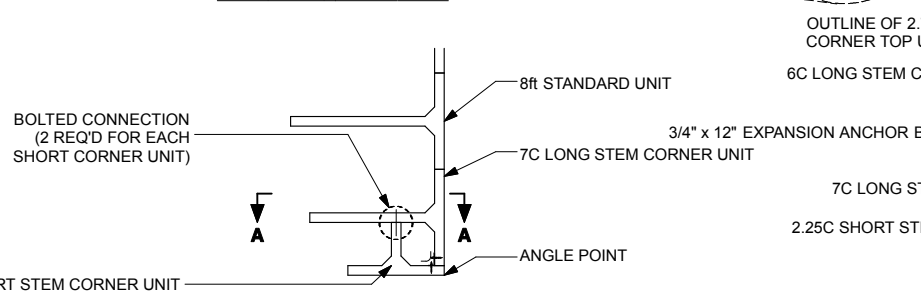
WALL 4 ELEVATION



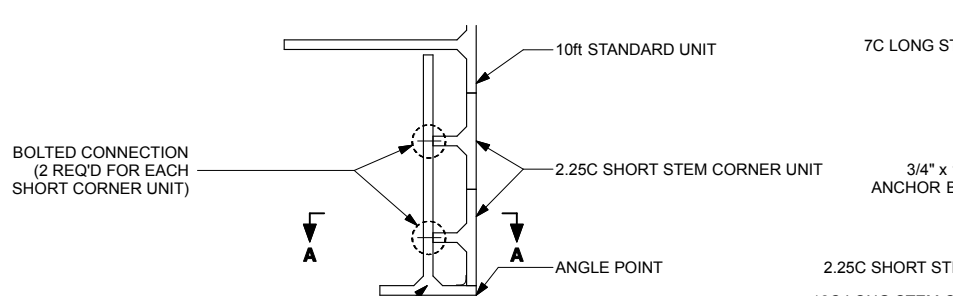
PART PLAN - FOURTH ROW



PART PLAN - THIRD ROW



PART PLAN - SECOND ROW



PART PLAN - FIRST ROW

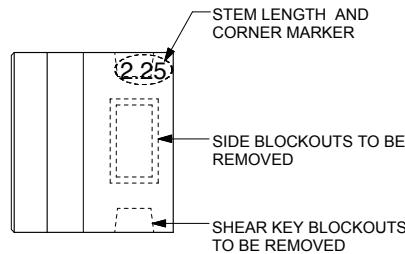
STEM LENGTHS VARY - SEE SPECIFIC ELEVATIONS FOR PROPER UNITS

TYPICAL CORNER UNIT ARRANGEMENT

NO SCALE

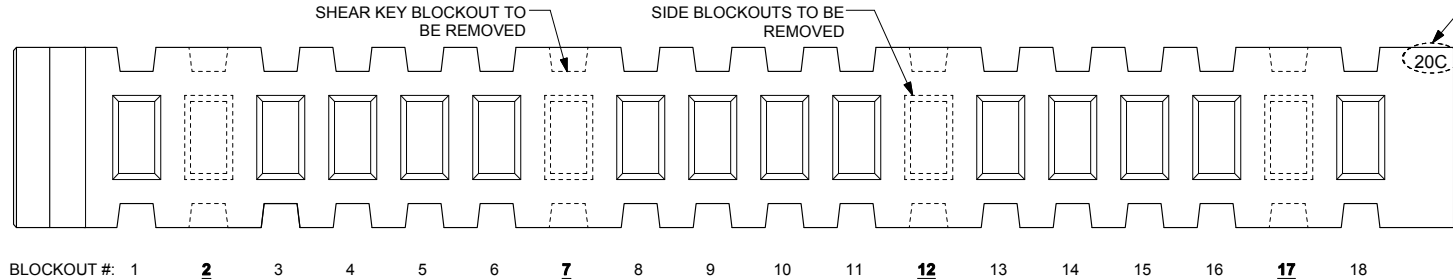
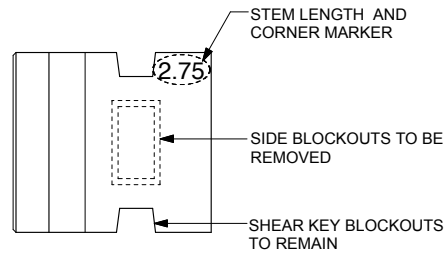
SIDE VIEW - 2.25C SHORT STEM CORNER UNIT

SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED. SEE NOTE 3.



SIDE VIEW - 2.75C SHORT STEM CORNER UNIT

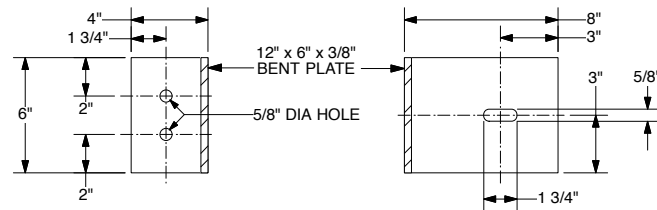
SIDE BLOCKOUTS TO BE REMOVED. SEE NOTE 3.



BLOCKOUT: #2, 7, 12 & 17, AS SHOWN

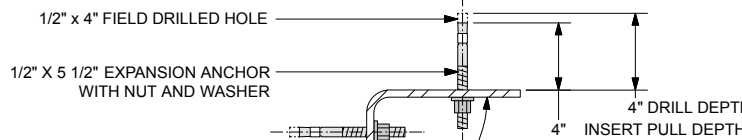
SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED). SEE NOTE 2.

SIDE VIEW - 20C LONG STEM CORNER UNIT



ELEVATION A

ELEVATION B

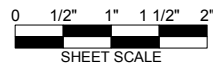


PLAN

CORNER PLATE CONNECTION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOWS:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



The design contained on these drawings is based upon information provided by the owner. On the basis of this information, The Neel Company has designed, and is responsible for, the internal stability of the structure only. External stability, including foundation and slope stability, is the responsibility of the owner.

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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

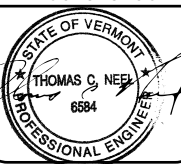
DESIGNER



THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET

WATERBURY, VT
IM 089-2(43)

SHOP DRAWINGS

WALL 4 90 DEG. CORNER DETAIL

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

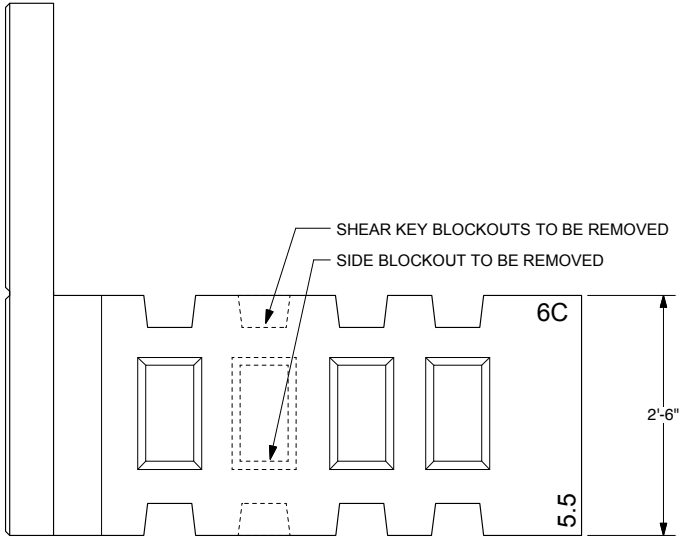
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DRAWN BY: CTH

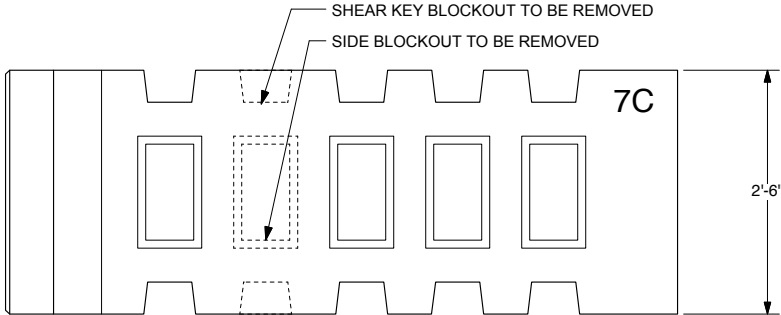
CHECKED BY: KB

SHEET: TW-16

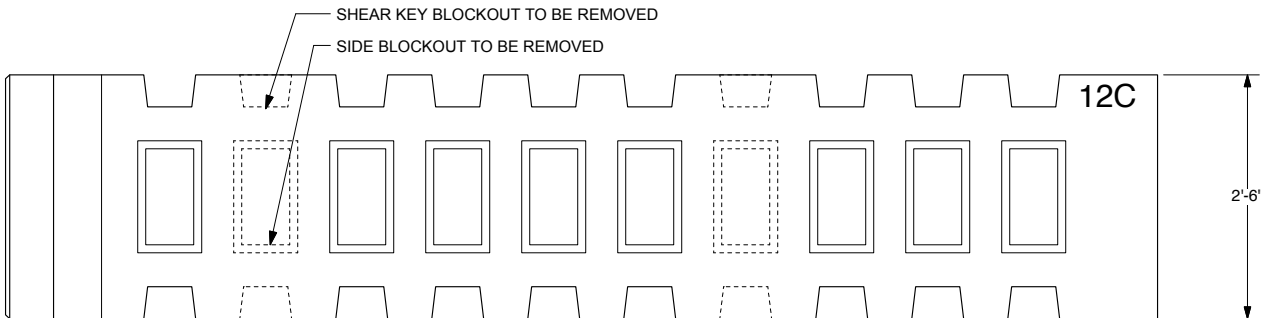
6' LONG STEM BY 5' HEIGHT TOP CORNER UNIT
(SEE SHEET TW-40 FOR MORE DETAIL)



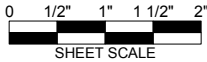
7' LONG STEM CORNER UNIT
(SEE SHEET TW-32 FOR MORE DETAIL)



12' LONG STEM CORNER UNIT SP12
(SEE SHEET TW-48 FOR MORE DETAIL)



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM




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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:


DESIGNER



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SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
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WEB: WWW.NEELCO.COM

PROJECT #: TW4437

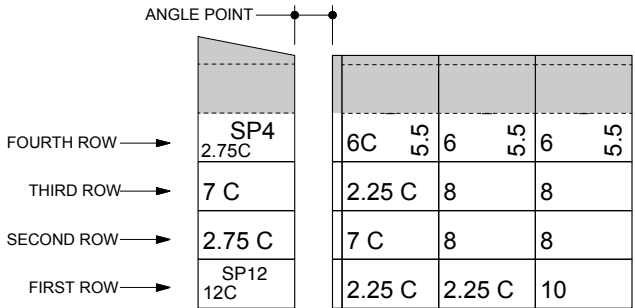
CERTIFIED WITH RESPECT
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T-WALL® STRUCTURES ONLY



REVISIONS		

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
WALL 4 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-17



WALL 4 ELEVATION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS .

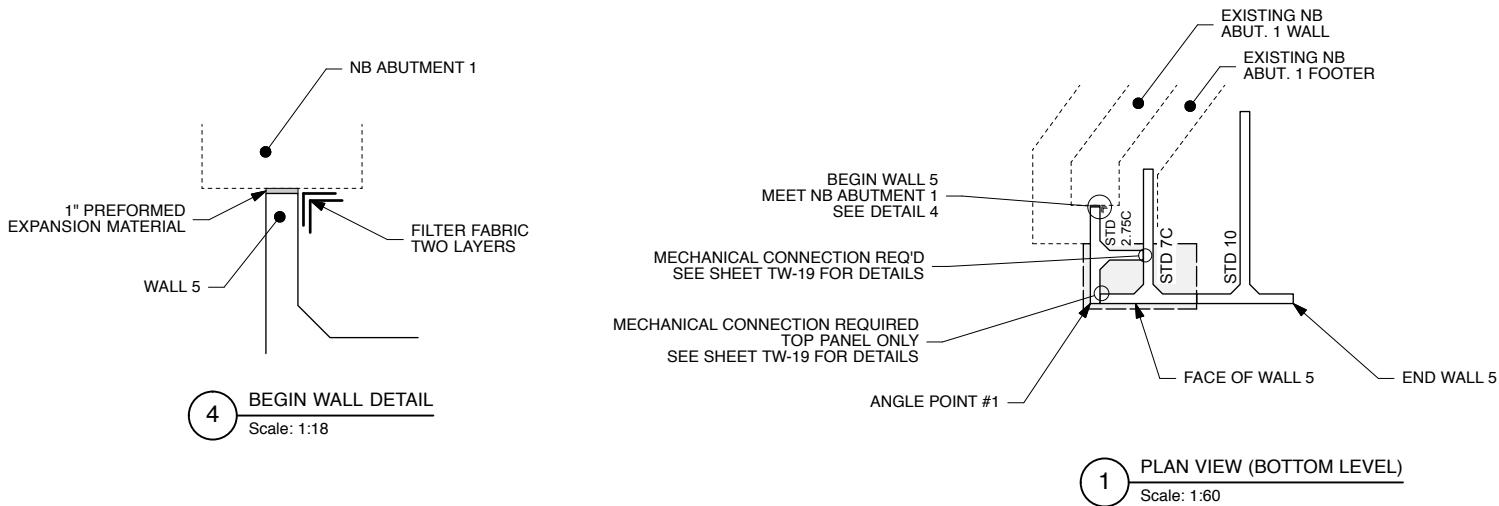
GENERAL NOTES:

- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH

BORDER-TNC T-WALL HWY v4.1

USER NAME: N/A
VECTORWORKS 2014

PLOT DATE & TIME: Monday, January 26, 2015 2:45:03 PM
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VW SHEET NAME: TW-3

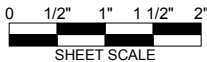
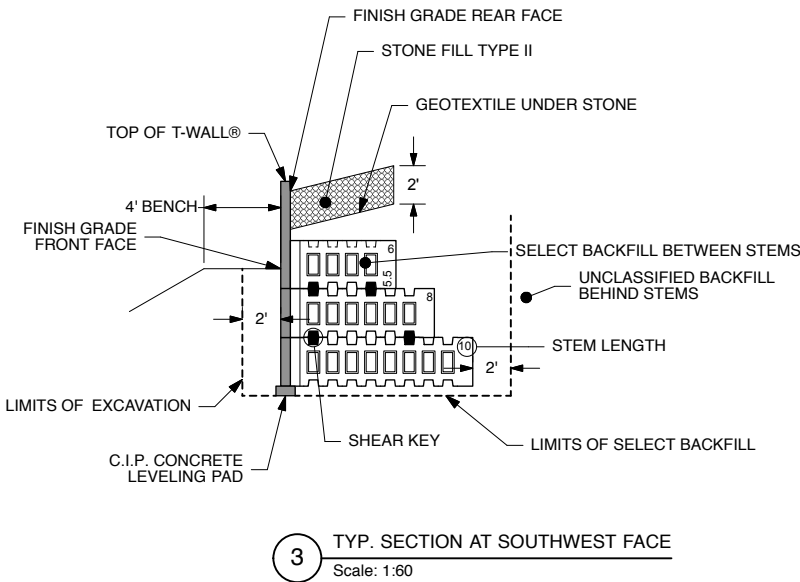
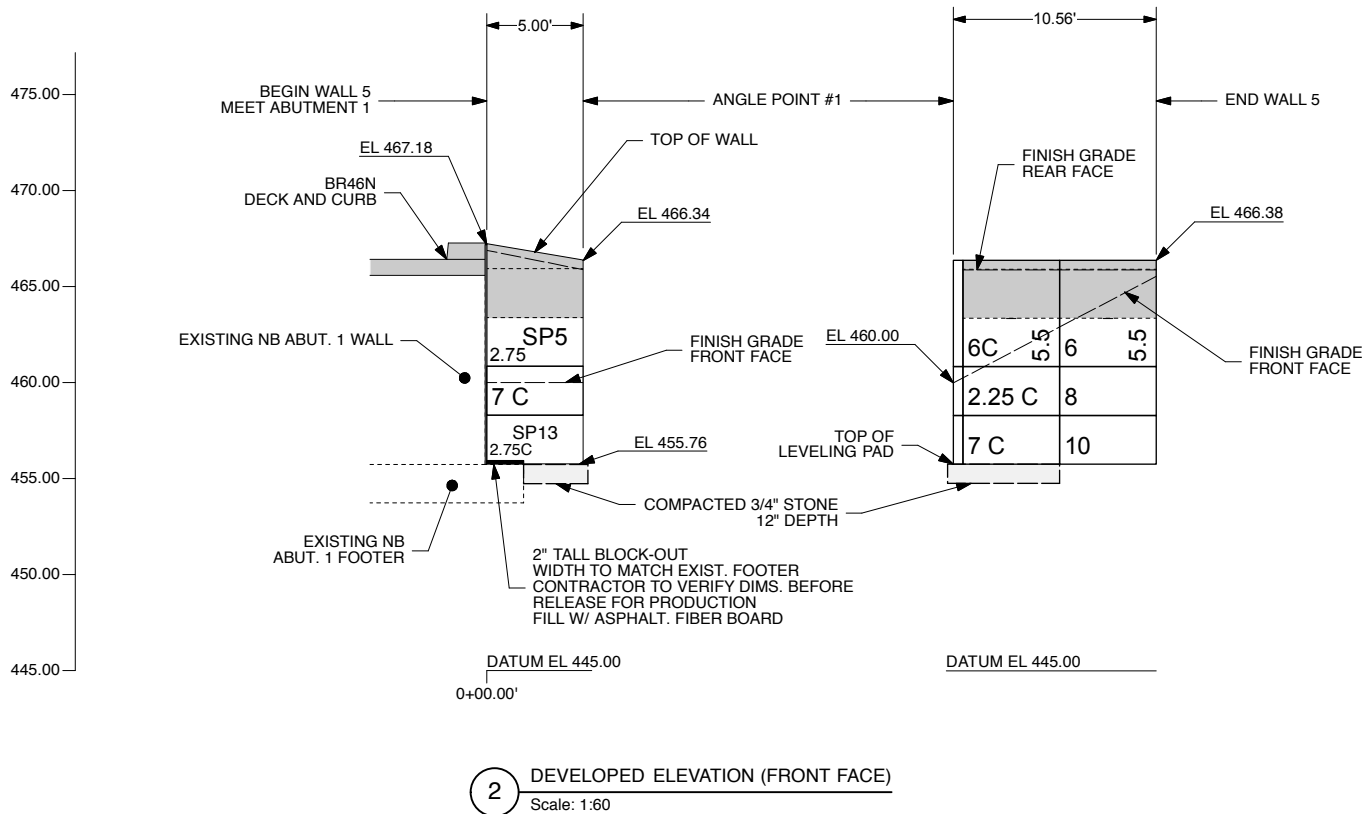


T-WALL Unit Count for Wall 5			
PANEL TYPE	QNTY (ea)	AREA (sf)	1/23/15 3:30:15 PM SELECT FILL (cy)
2.5 x 5.0 x 08 Std	1	12.50	3
2.5 x 5.0 x 10 Std	1	12.50	4
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 07 Std Cnr	2	25.00	6
5.5 x 5.0 x 06 Std Top	1	27.50	2
5.5 x 5.0 x 06 Std Top Cnr	1	27.50	2
Special Units	2	42.20	2
TOTALS:	9 ea	159.70 sf	21 cy

NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	6 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	30.00 LF
Filter Cloth (12" wide)***	44.00 LF



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

DESIGNER



THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET

WATERBURY, VT
IM 089-2(43)

SHOP DRAWINGS
WALL 5 ELEVATION, PLAN, SECTION

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

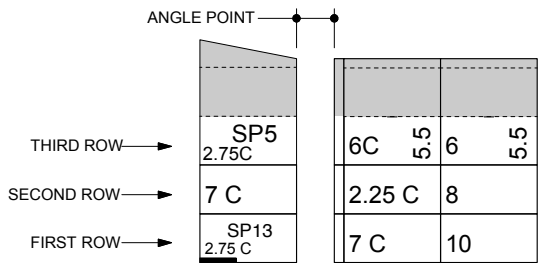
DATE: 1/23/2015

DESIGNED BY: KB

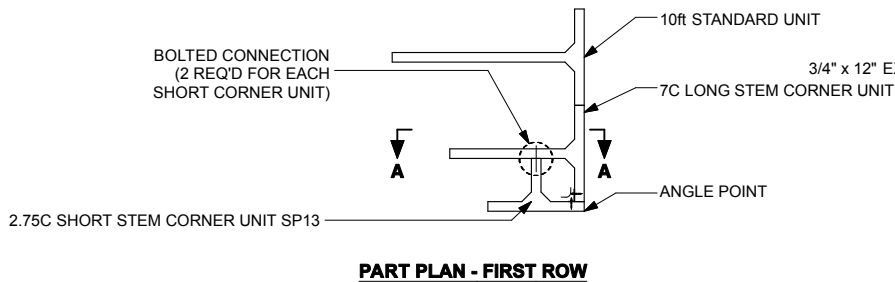
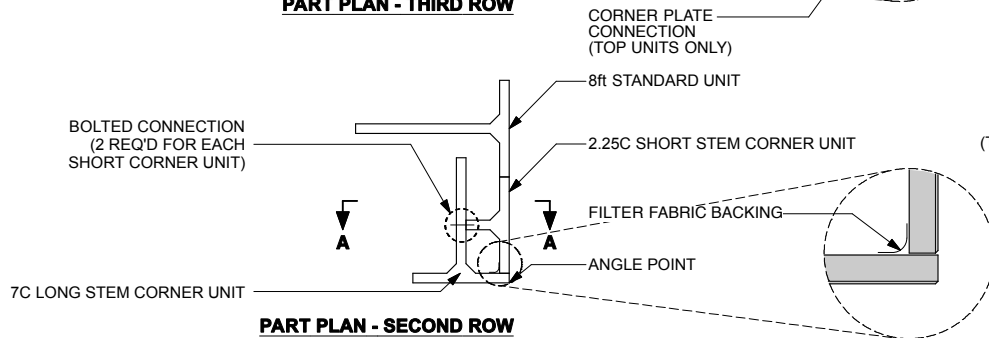
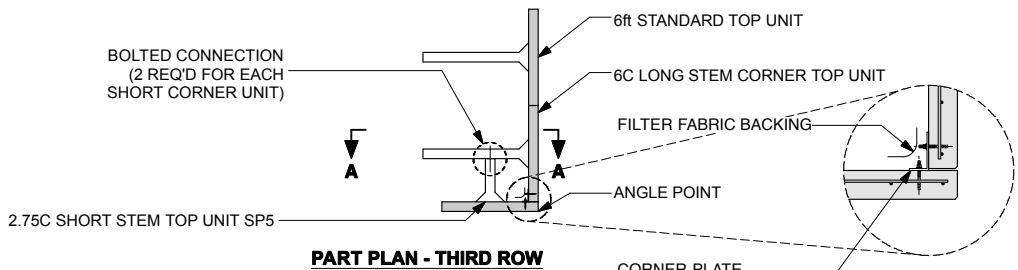
DRAWN BY: CTH

CHECKED BY: KB

SHEET: TW-18



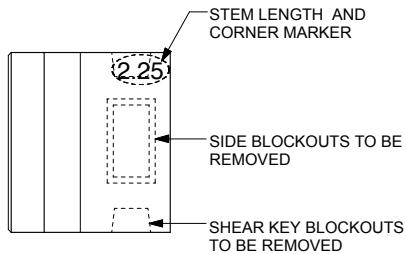
WALL 5 ELEVATION



STEM LENGTHS VARY - SEE SPECIFIC
ELEVATIONS FOR PROPER UNITS

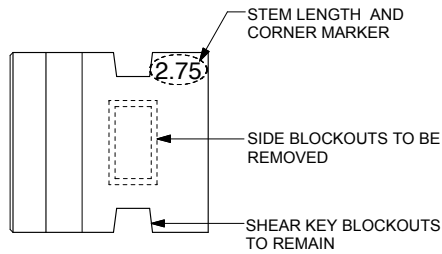
TYPICAL CORNER UNIT ARRANGEMENT

NO SCALE



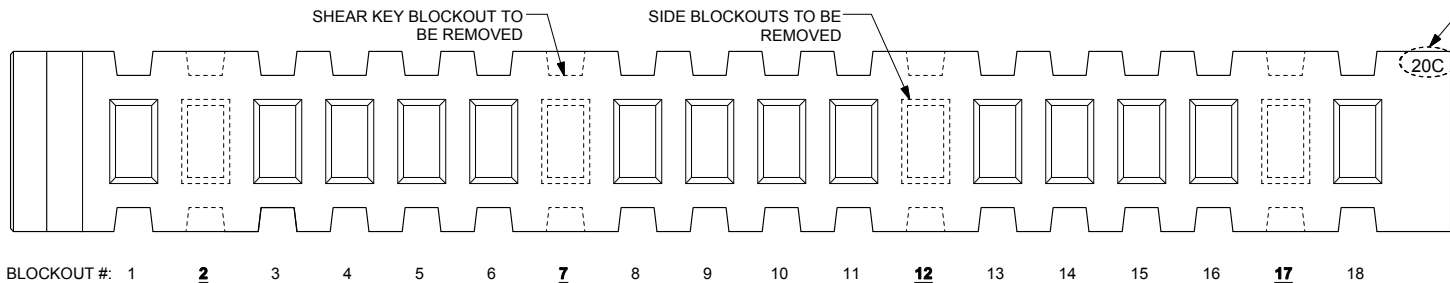
SIDE VIEW - 2.25C SHORT STEM CORNER UNIT

SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



SIDE VIEW - 2.75C SHORT STEM CORNER UNIT

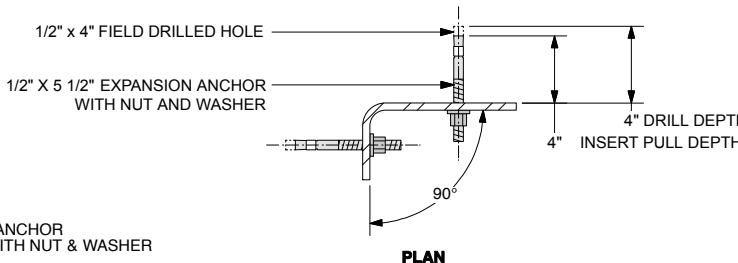
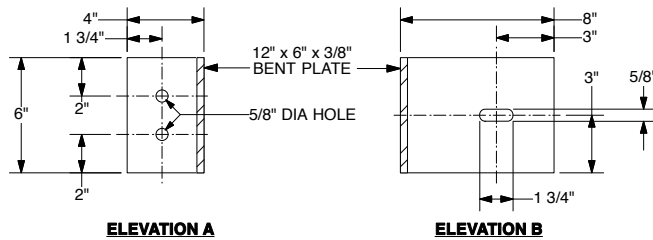
SIDE BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



BLOCKOUT: #2, 7, 12 & 17, AS SHOWN

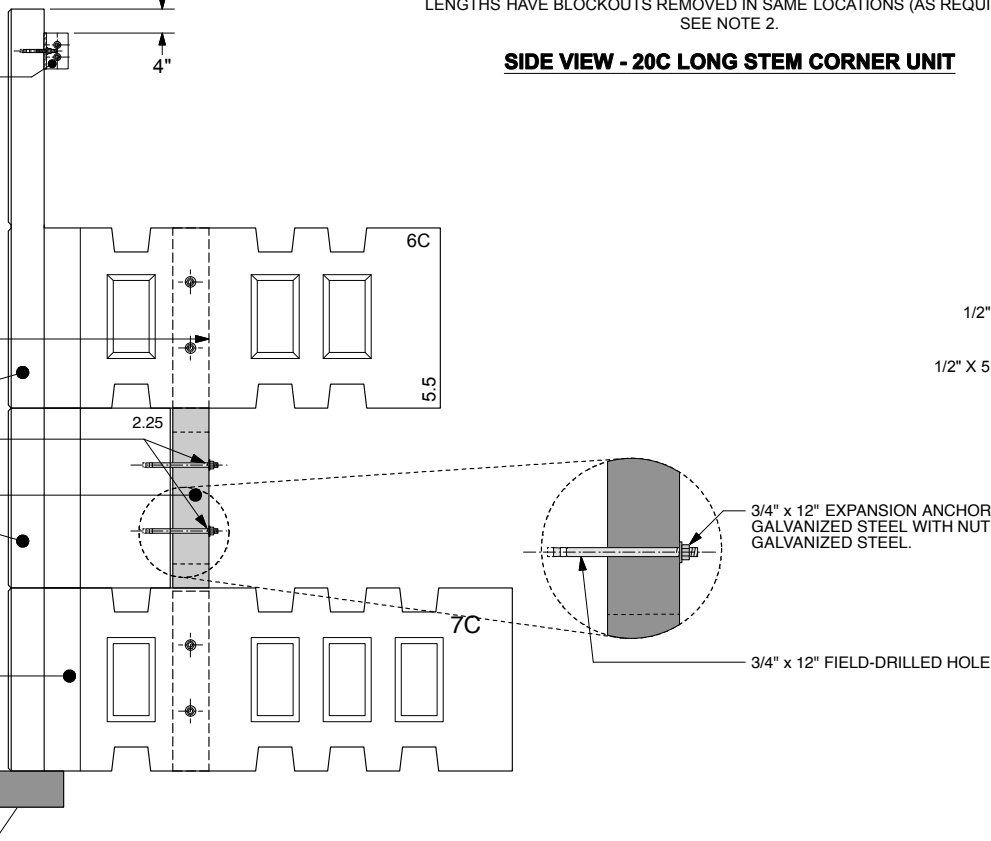
SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM
LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).
SEE NOTE 2.

SIDE VIEW - 20C LONG STEM CORNER UNIT

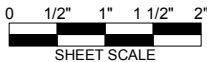


NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOWS:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



SECTION A-A



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HUDSON, NH
PROJECT #: T22259

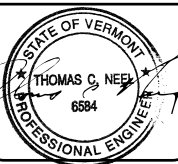
CONTRACTOR:
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY



REVISIONS

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

**WATERBURY, VT
IM 089-2(43)**

**SHOP DRAWINGS
WALL 5 90 DEG. CORNER DETAIL**

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

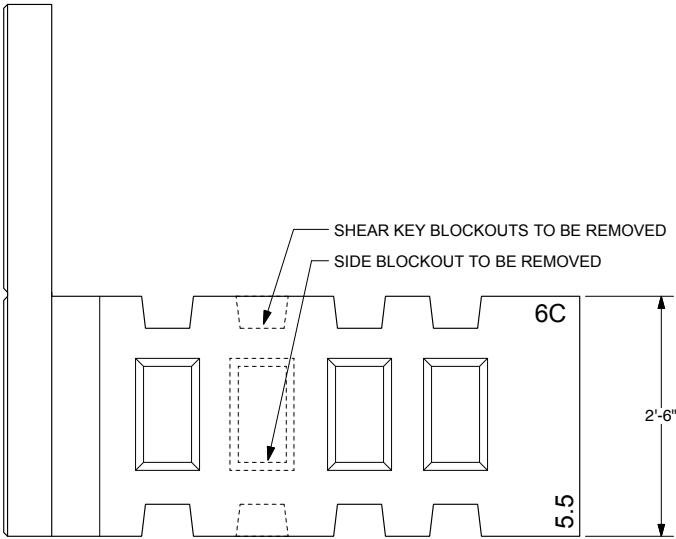
DESIGNED BY: KB

DRAWN BY: CTH

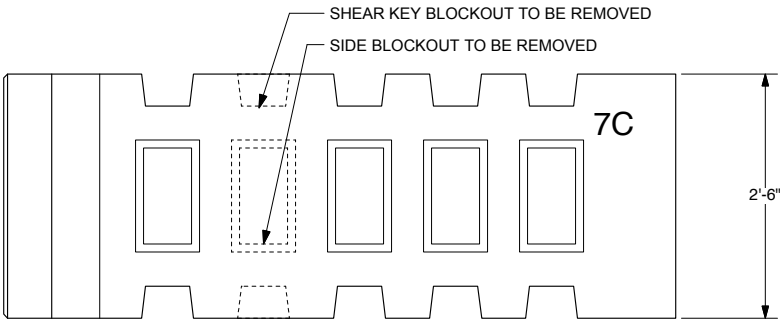
CHECKED BY: KB

SHEET: TW-19

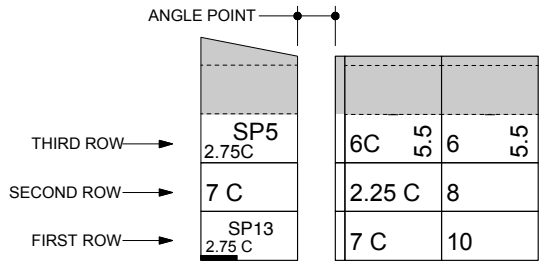
6' LONG STEM BY 5' HEIGHT TOP CORNER UNIT
(SEE SHEET TW-36 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT
(SEE SHEET TW-34 FOR MORE DETAIL)



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM



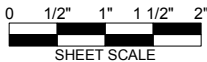
WALL 5 ELEVATION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS .

GENERAL NOTES:

- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:

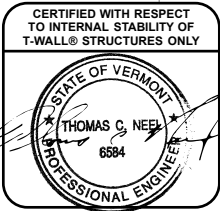
PROJECT #:

DESIGNER

THE NEEL COMPANY

8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437



REVISIONS		

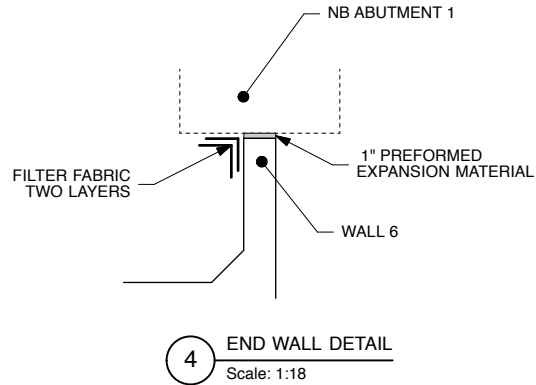
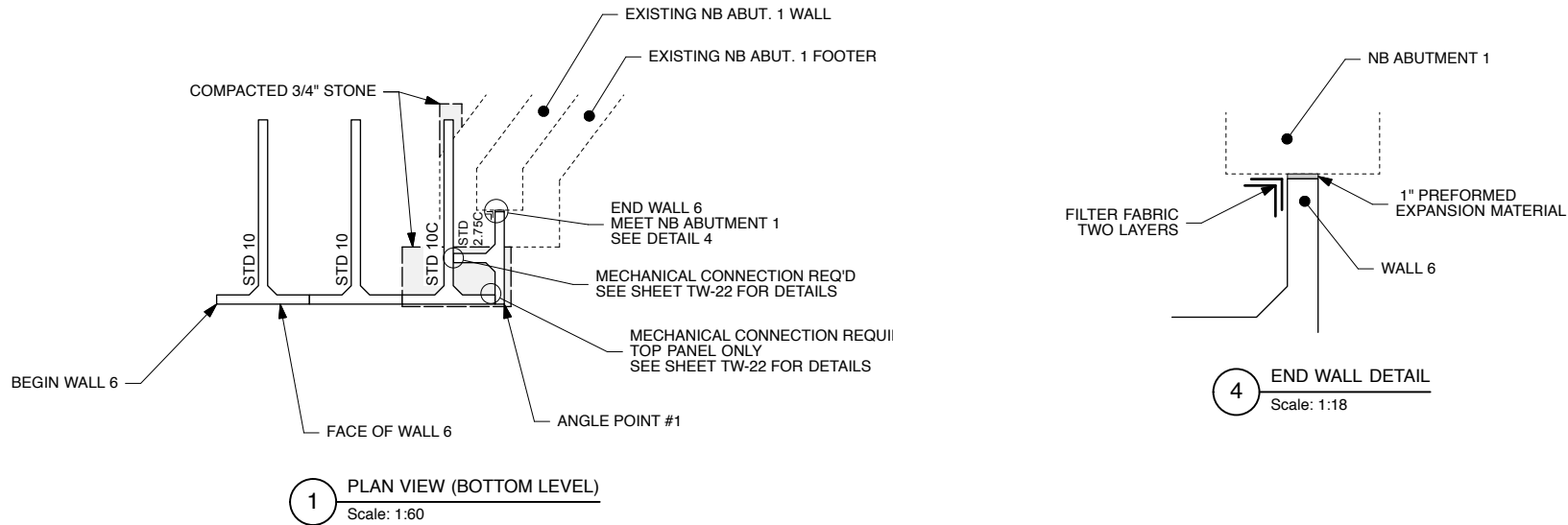
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
WALL 5 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-20

BORDER-TNC T-WALL HWY v4.1

USER NAME: N/A
VECTORWORKS 2014

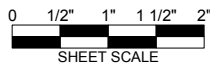
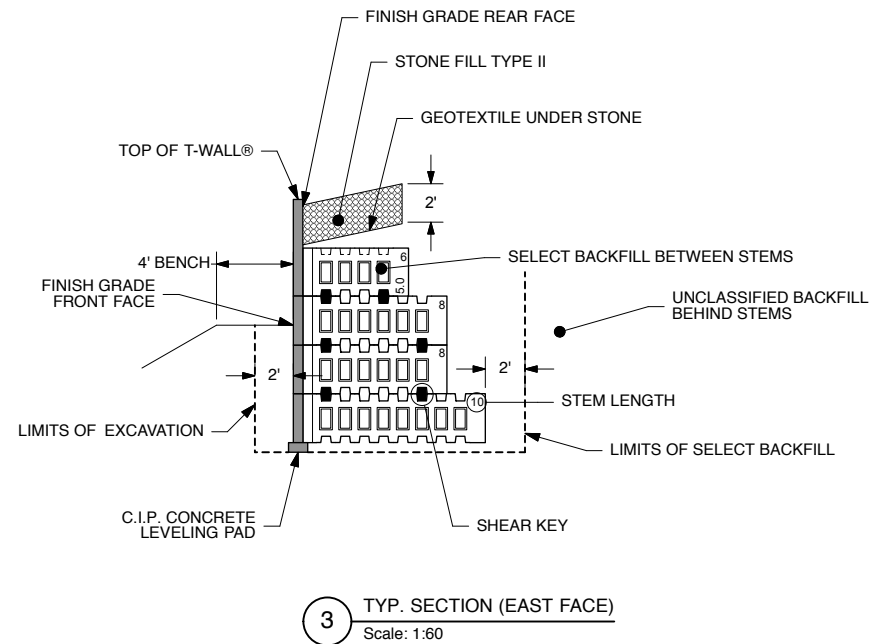
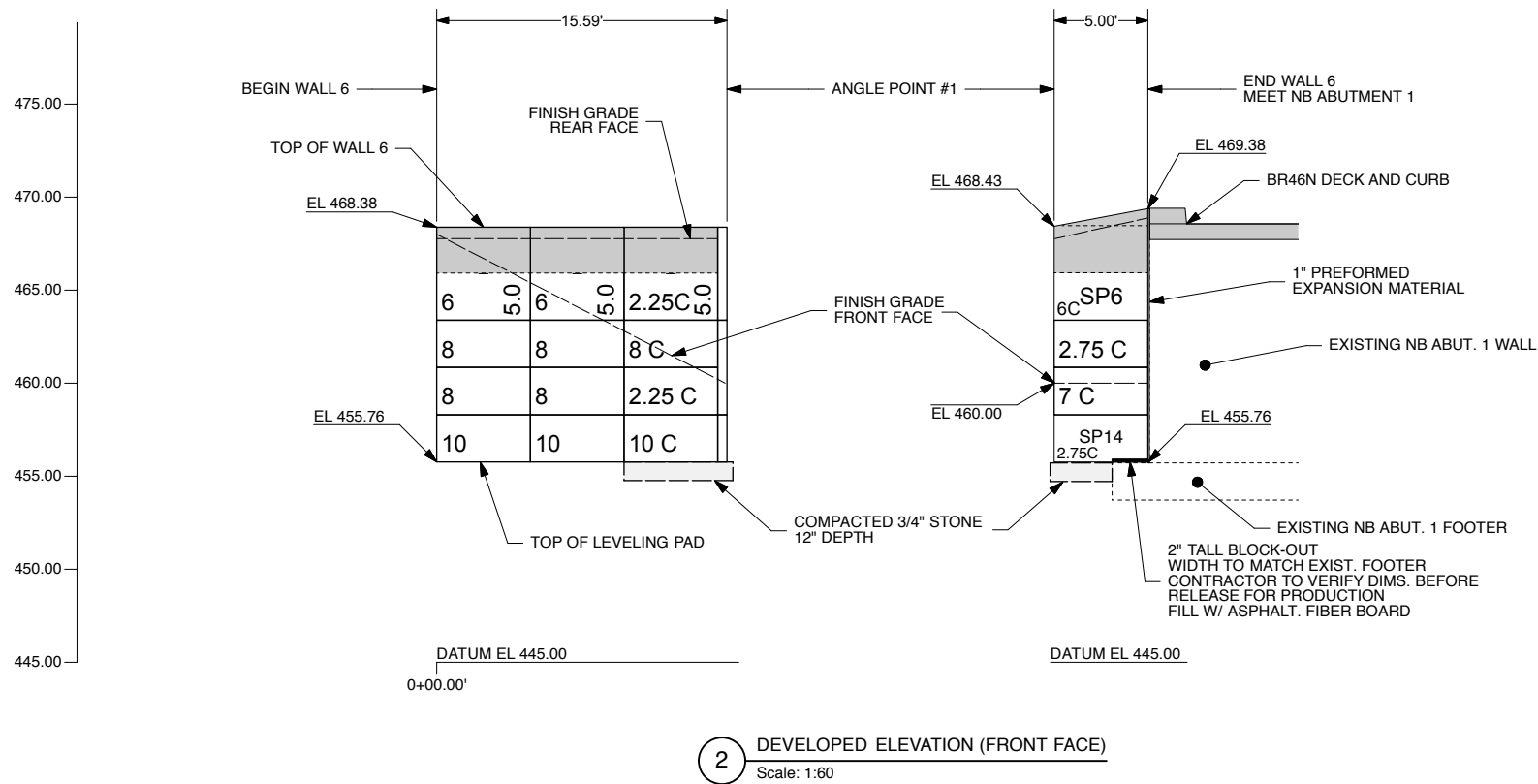
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VW SHEET NAME: TW-3



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PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	4	50.00	13
2.5 x 5.0 x 10 Std	2	25.00	8
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 02.75 Std Cnr	1	12.50	1
2.5 x 5.0 x 07 Std Cnr	1	12.50	3
2.5 x 5.0 x 08 Std Cnr	1	12.50	3
2.5 x 5.0 x 10 Std Cnr	1	12.50	4
5.0 x 5.0 x 06 Std Top	2	50.42	5
5.0 x 5.0 x 02.25 Std Top Cnr	1	25.21	1
Special Units	2	40.10	3
TOTALS:	16 ea	253.23 sf	43 cy

NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:	
ITEM	QNTY
Shear Keys	15 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	60.00 LF
Filter Cloth (12" wide)***	65.00 LF



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:

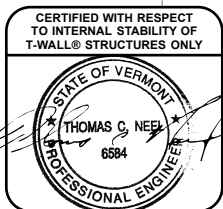
PROJECT #:

DESIGNER

THE NEEL COMPANY

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PH: (703) 913-7858
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WEB: WWW.NEELCO.COM

PROJECT #: TW4437



REVISIONS		

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

**WATERBURY, VT
IM 089-2(43)**

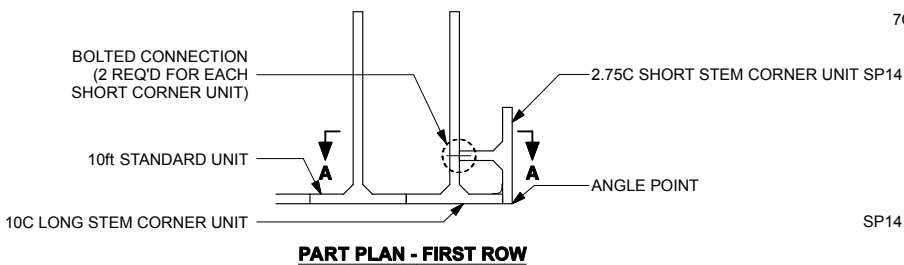
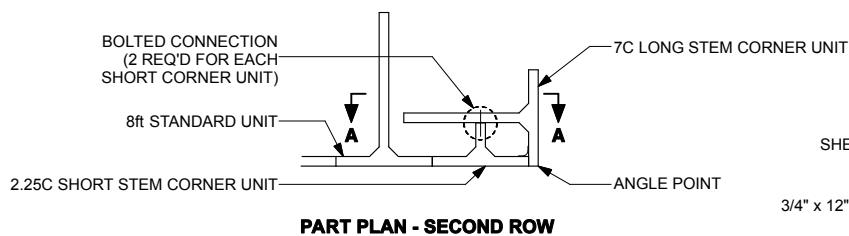
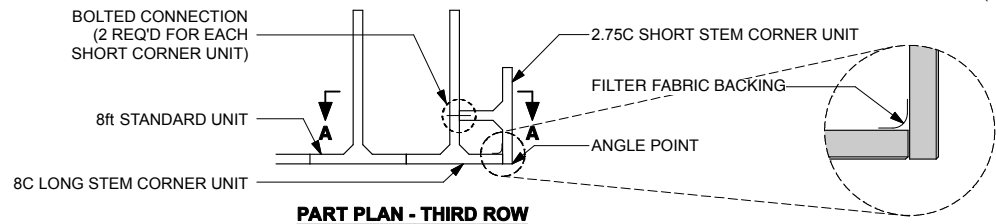
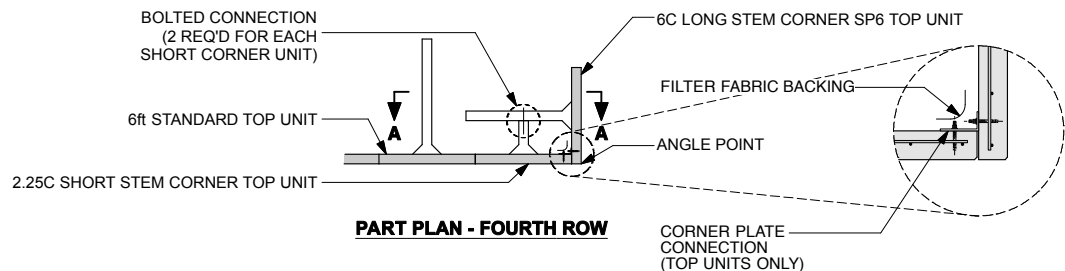
SHOP DRAWINGS
WALL 6 ELEVATION, PLAN, SECTION

T-WALL® RETAINING WALL SYSTEM

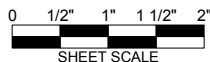
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-21

	ANGLE POINT			
FOURTH ROW	6 50	6 50	2.25C 50	6C SP6
THIRD ROW	8	8	7 C	2.75 C
SECOND ROW	8	8	2.25 C	7 C
FIRST ROW	10	10	10 C	SP14 2.75C

WALL 6 ELEVATION



**STEM LENGTHS VARY - SEE SPECIFIC
ELEVATIONS FOR PROPER UNITS**

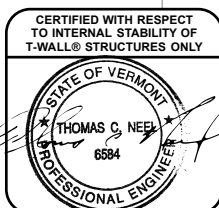
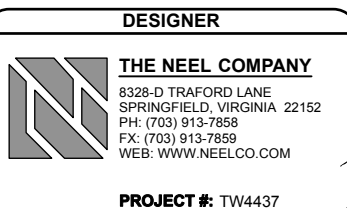
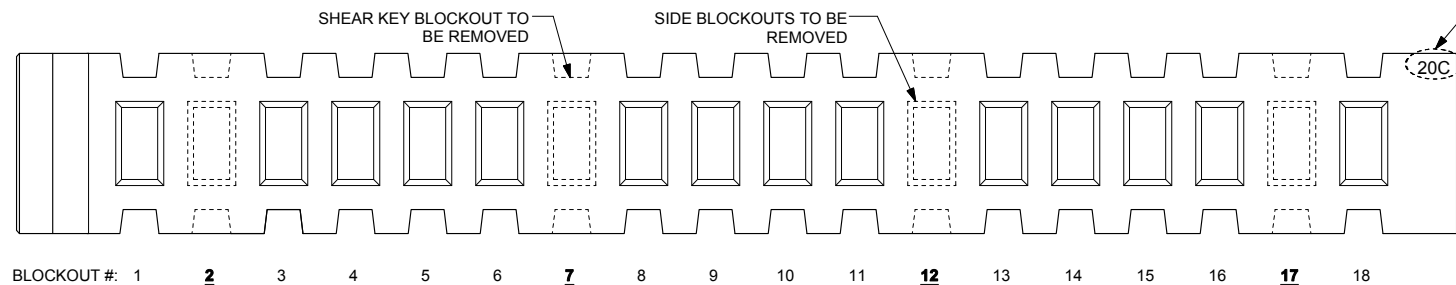
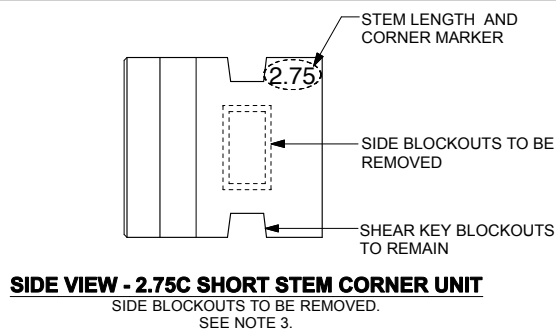
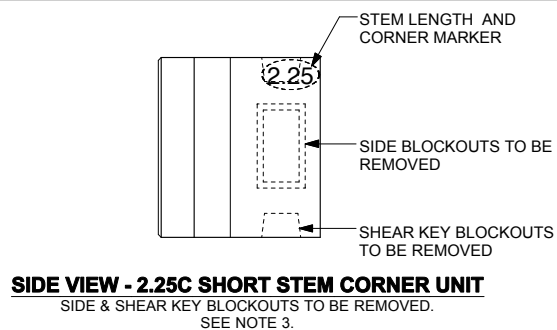


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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

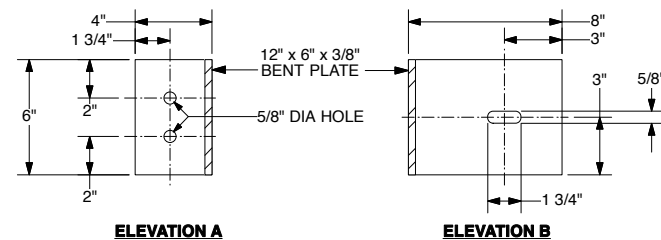
CONTRACTOR:
PROJECT #:

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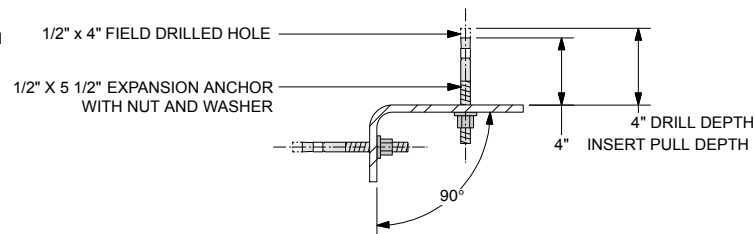
BLOCKOUT: #2, 7, 12 & 17, AS SHOWN

SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).
SEE NOTE 2.

SIDE VIEW - 20C LONG STEM CORNER UNIT



ELEVATION A

ELEVATION B

PLAN

CORNER PLATE CONNECTION

NOTES:

1. ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK NO., I.E. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
2. FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
3. FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
4. PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
5. EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
 - 5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
 - 5.2 3/4"Ø x 12" EXPANSION BOLT
6. HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOVED:
 - 3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
 - 3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"

I-89 BRIDGE DECK REPLACEMENTS

I-89 OVER STOWE STREET

WATERBURY, VT
IM 089-2(43)

SHOP DRAWINGS

WALL 6 90 DEG. CORNER DETAIL

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

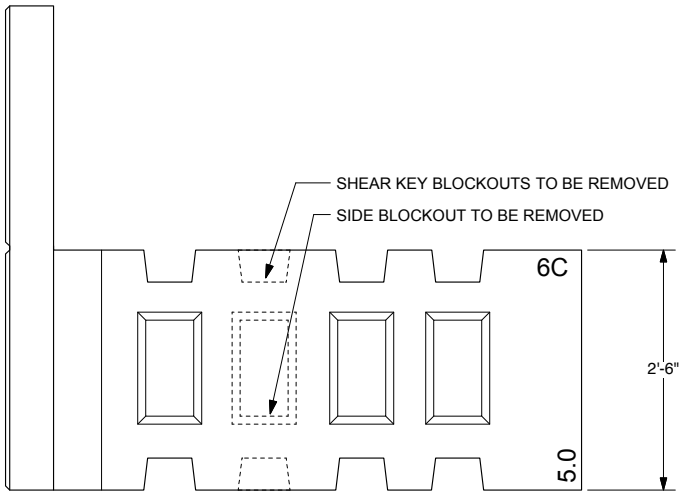
DESIGNED BY:	KB
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DRAWN BY: CTH

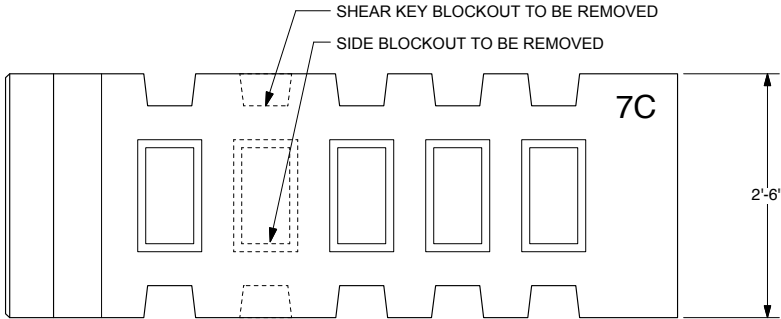
CHECKED BY: KB

SHEET: TW-22

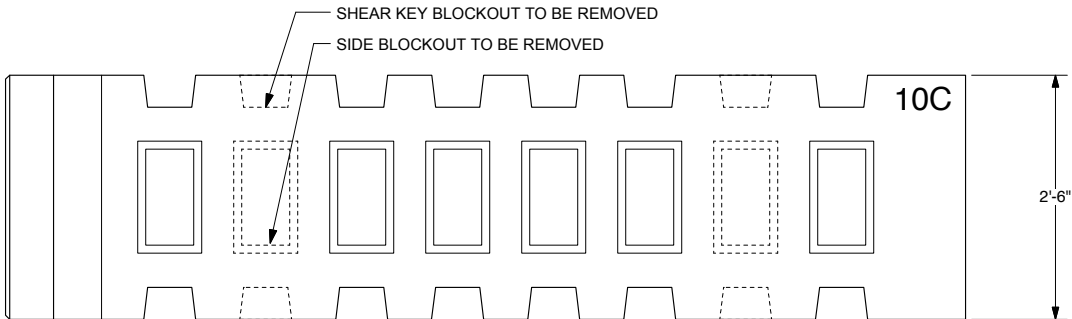
6' LONG STEM BY 5' HEIGHT CORNER UNIT
(SEE SHEET 40 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT
(SEE SHEET 32 FOR MORE DETAIL)



10' LONG STEM CORNER UNIT
(SEE SHEET 32 FOR MORE DETAIL)



	ANGLE POINT			
FOURTH ROW	6	5.0	2.25C	6C SP6
THIRD ROW	8	8	7 C	2.75 C
SECOND ROW	8	8	2.25 C	7 C
FIRST ROW	10	10	10 C	SP14 2.75C

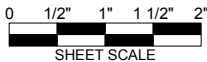
WALL 6 ELEVATION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS:
EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS .

GENERAL NOTES:

- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM


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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

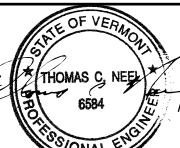
DESIGNER



THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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REVISIONS		

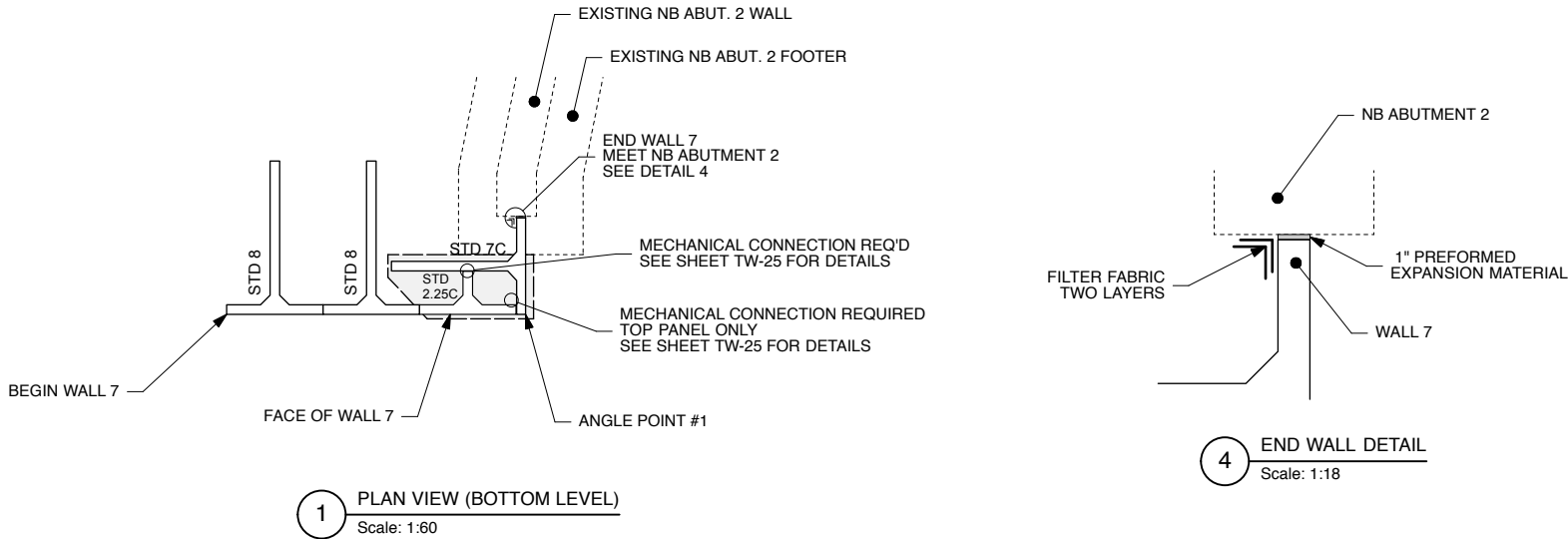
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
WALL 6 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-23

BORDER-TNC T-WALL HWY v4.1

USER NAME: N/A
VECTORWORKS 2014

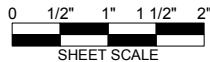
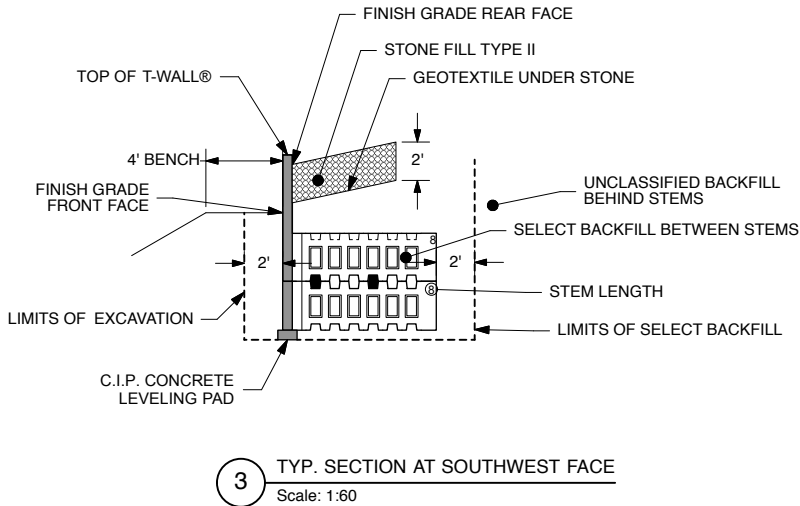
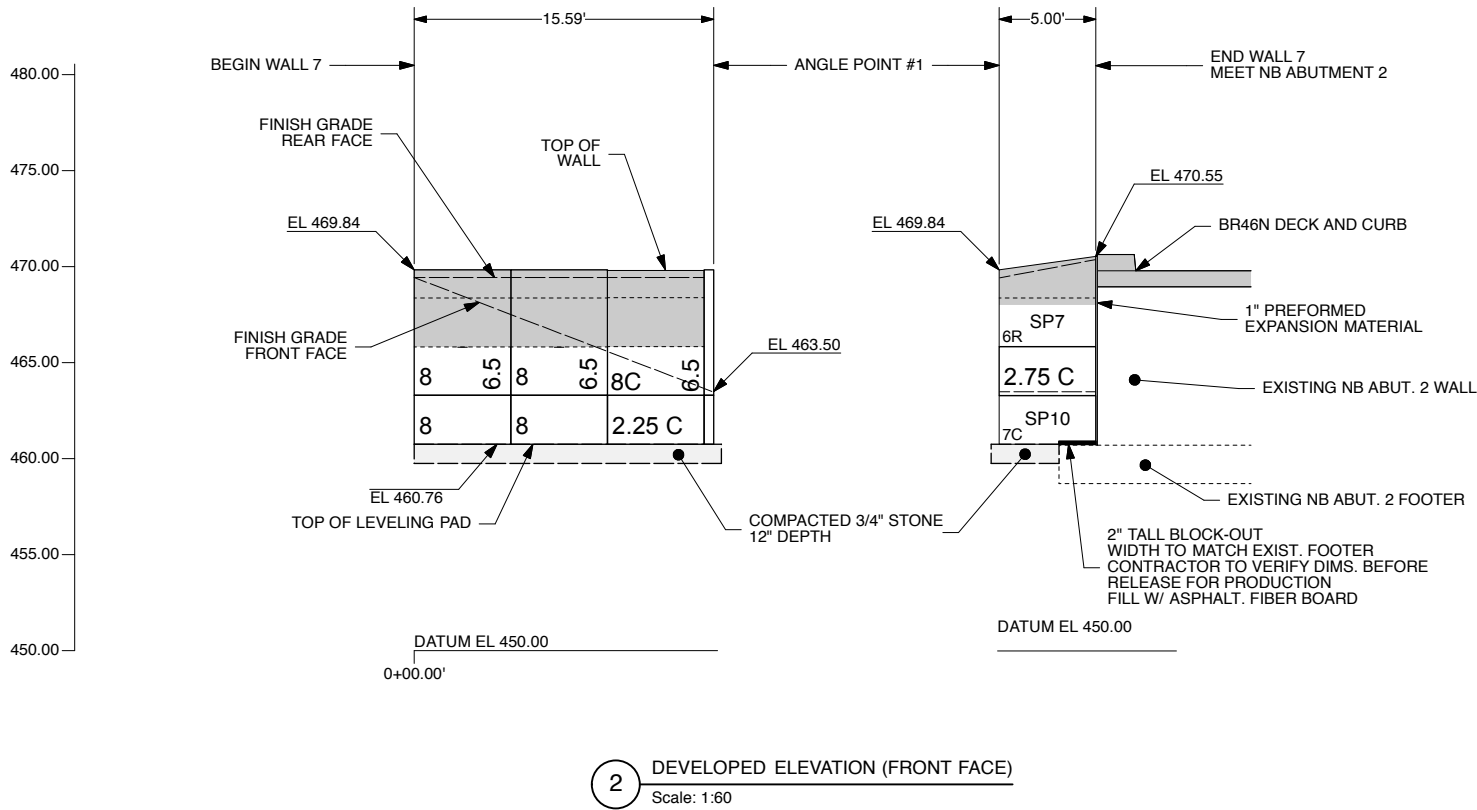
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CAD FILE NAME: 24 BR46N Wall 7.vwx
VW SHEET NAME: TW-3



T-WALL Unit Count for Wall 7			1/26/15 2:24:48 PM
PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	2	25.00	7
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 02.75 Std Cnr	1	12.50	1
6.5 x 5.0 x 08 Std Top	2	65.00	7
6.5 x 5.0 x 08 Std Top Cnr	1	32.50	3
Special Units	2	34.28	5
TOTALS:		9 ea	181.78 sf
			23 cy

NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:	
ITEM	QNTY
Shear Keys	6 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	25.00 LF
Filter Cloth (12" wide)***	47.00 LF



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:

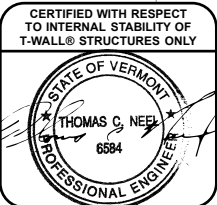
PROJECT #:

DESIGNER

THE NEEL COMPANY

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SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
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WEB: WWW.NEELCO.COM

PROJECT #: TW4437



REVISIONS		

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

**WATERBURY, VT
IM 089-2(43)**

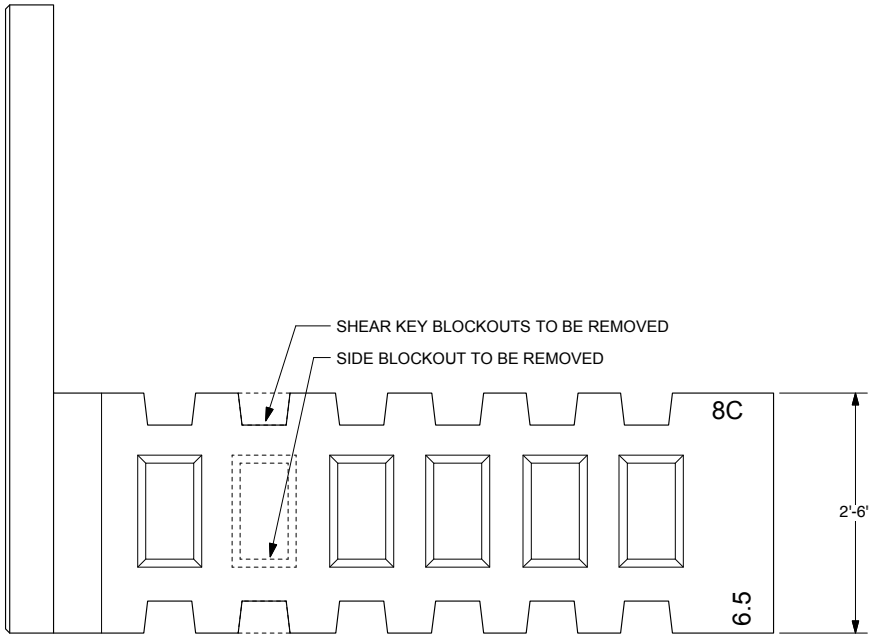
SHOP DRAWINGS
WALL 7 ELEVATION, PLAN, SECTION

T-WALL® RETAINING WALL SYSTEM

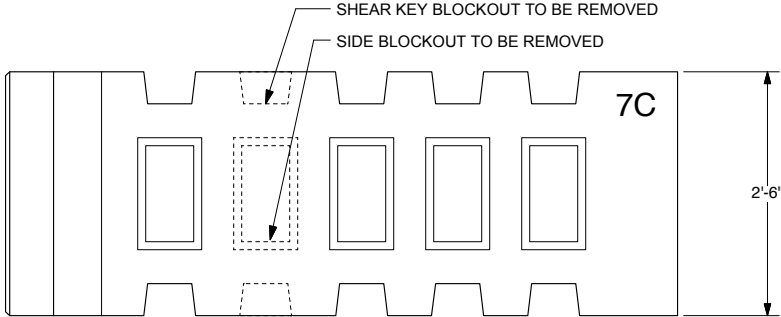
SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-24

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-25

8' STEM BY 6.5' HEIGHT CORNER TOP UNIT
(SEE SHEET 40 FOR MORE DETAIL)



7' LONG STEM CORNER UNIT
(SEE SHEET 32 FOR MORE DETAIL)



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM

								ANGLE POINT
SECOND ROW	8	6.5	8	6.5	8C	6.5		6R SP7
FIRST ROW	8		8		2.25 C			7C SP10

WALL 7 ELEVATION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS:
EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS .

GENERAL NOTES:

- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH



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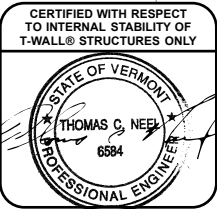
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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

DESIGNER
THE NEEL COMPANY
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PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437



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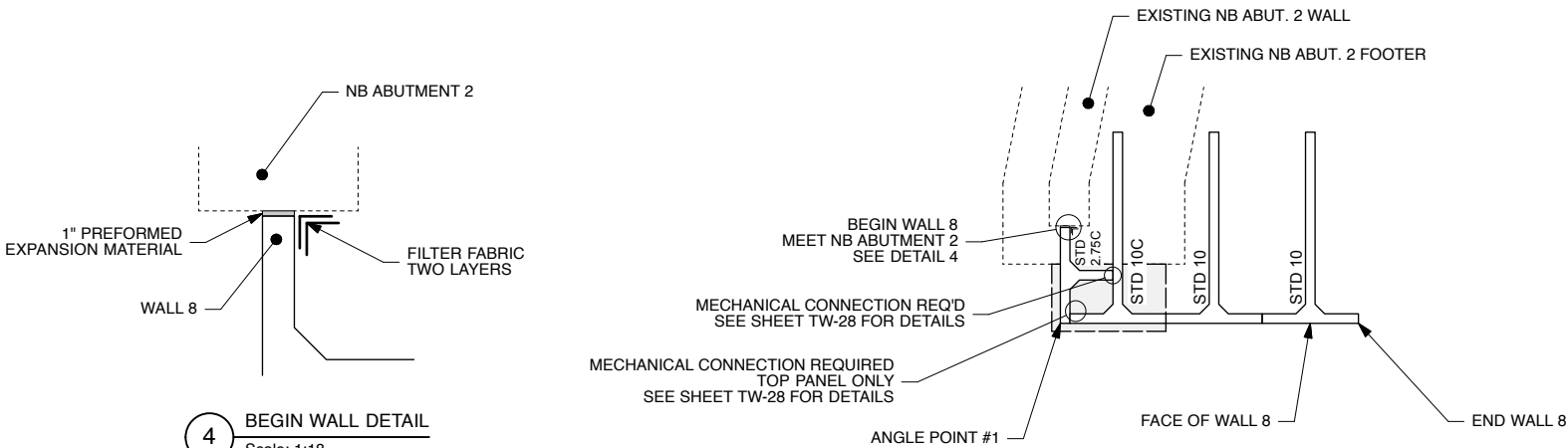
I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
WALL 7 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-26

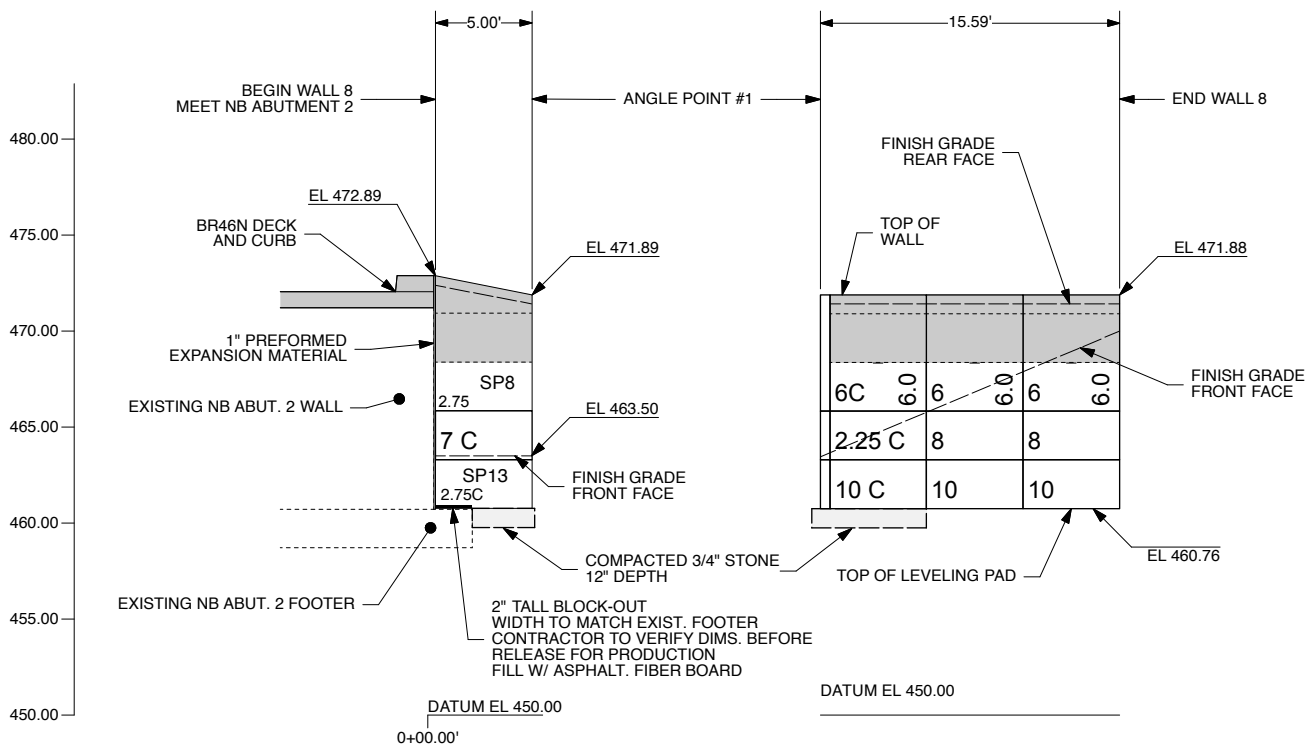
BORDER-TNC T-WALL HWY v4.1

USER NAME: N/A
VECTORWORKS 2014

PLOT DATE & TIME: Monday, January 26, 2015 2:52:05 PM
CAD FILE NAME: 27 BR46N Wall 8.wx
VW SHEET NAME: TW-3



1 PLAN VIEW (BOTTOM LEVEL)
Scale: 1:60



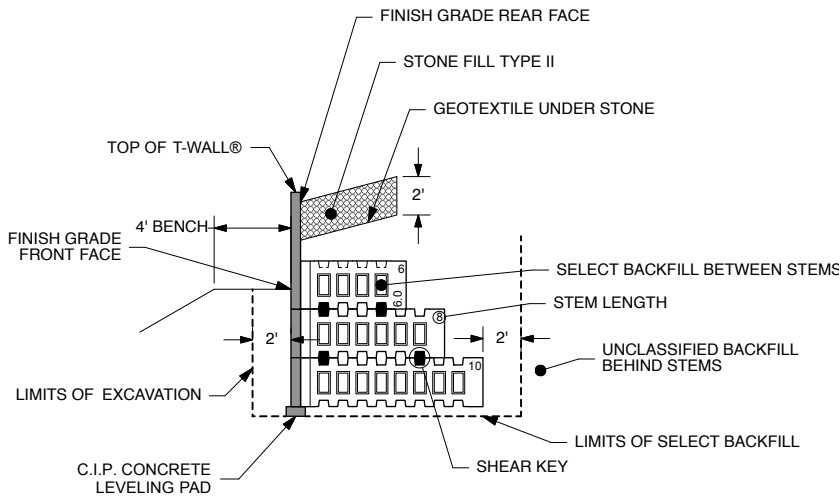
2 DEVELOPED ELEVATION (FRONT FACE)
Scale: 1:60

T-WALL Unit Count for Wall 8			
PANEL TYPE	QNTY (ea)	AREA (sf)	SELECT FILL (cy)
2.5 x 5.0 x 08 Std	2	25.00	7
2.5 x 5.0 x 10 Std	2	25.00	8
2.5 x 5.0 x 02.25 Std Cnr	1	12.50	1
2.5 x 5.0 x 07 Std Cnr	1	12.50	3
2.5 x 5.0 x 10 Std Cnr	1	12.50	4
6.0 x 5.0 x 06 Std Top	2	60.00	5
6.0 x 5.0 x 06 Std Top Cnr	1	30.00	2
Special Units	2	45.00	2
TOTALS:	12 ea	222.50 sf	32 cy

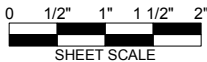
NOTE: Select backfill quantities are between stems only.

SHIP LOOSE LIST FOR RETAINING WALL:

ITEM	QNTY
Shear Keys	10 ea.
AF250 Polyethylene Foam*	1.00 Rolls
1/2" x 4" x 5.00' Horizontal Joint Material**	40.00 LF
Filter Cloth (12" wide)***	57.00 LF



3 TYPICAL SECTION (NORTH FACE)
Scale: 1:60



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HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

DESIGNER



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SPRINGFIELD, VIRGINIA 22152
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FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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REVISIONS

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET

WATERBURY, VT
IM 089-2(43)

SHOP DRAWINGS
WALL 8 ELEVATION, PLAN, SECTION

T-WALL® RETAINING WALL SYSTEM

SCALE: AS NOTED

DATE: 1/23/2015

DESIGNED BY: KB

DRAWN BY: CTH

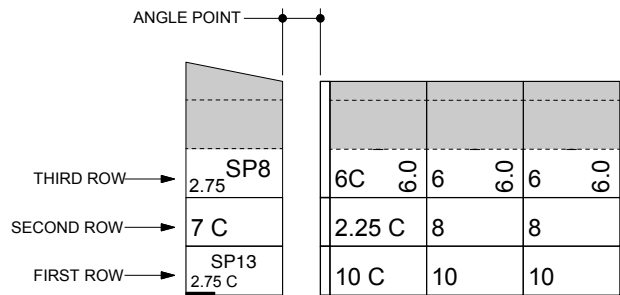
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SHEET: TW-27

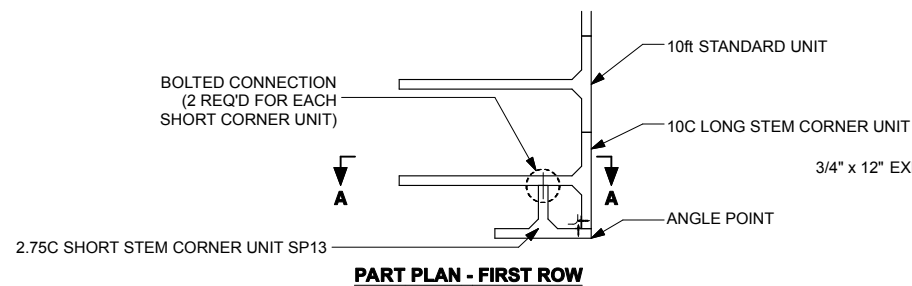
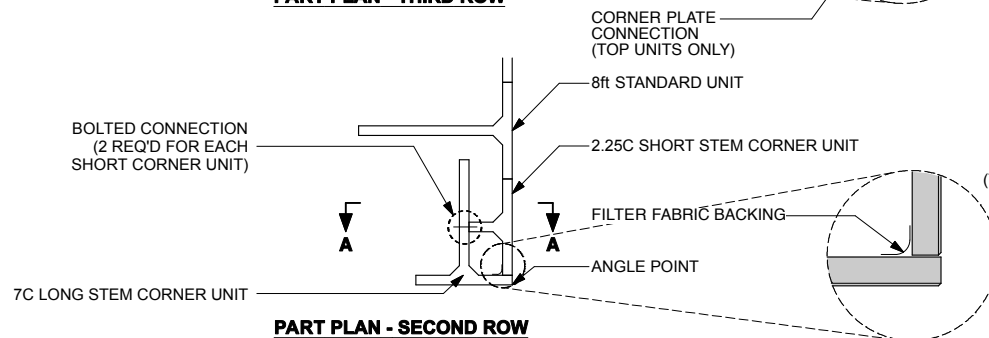
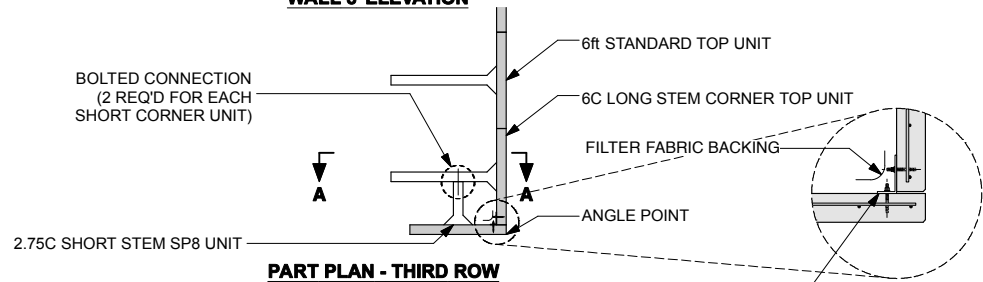
BORDER-TNC T-WALL HWY v4.1

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VECTORWORKS 2014

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VW SHEET NAME: Border



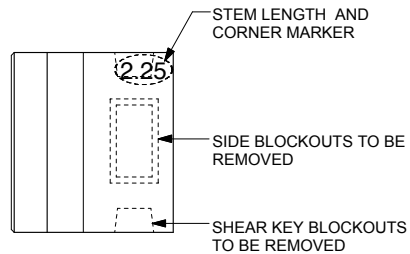
WALL 8 ELEVATION



STEM LENGTHS VARY - SEE SPECIFIC
ELEVATIONS FOR PROPER UNITS

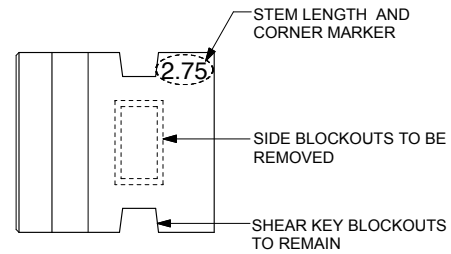
TYPICAL CORNER UNIT ARRANGEMENT

NO SCALE



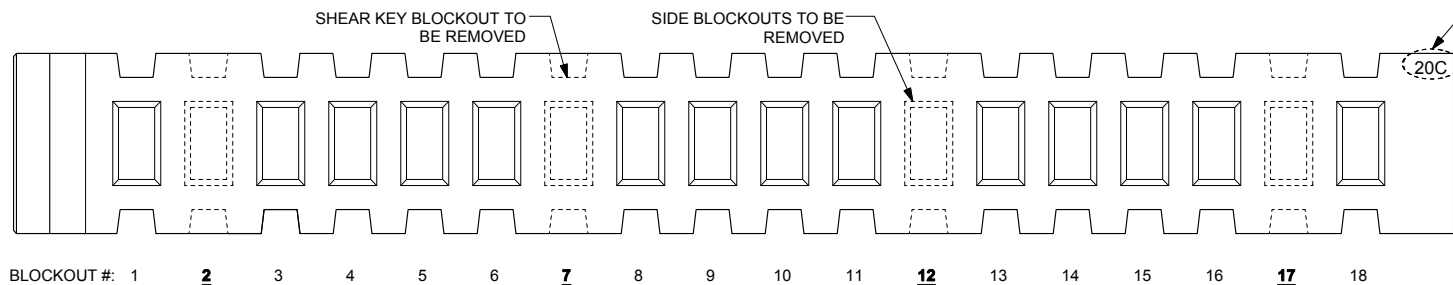
SIDE VIEW - 2.25C SHORT STEM CORNER UNIT

SIDE & SHEAR KEY BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



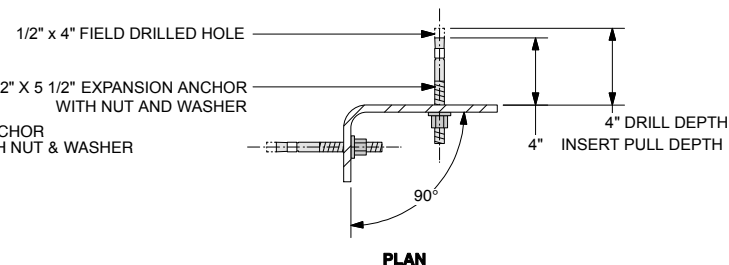
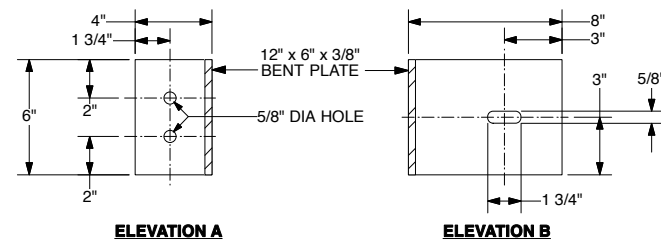
SIDE VIEW - 2.75C SHORT STEM CORNER UNIT

SIDE BLOCKOUTS TO BE REMOVED.
SEE NOTE 3.



SHOWING BLOCKOUTS TO BE REMOVED IN 20' STEM UNIT SHOWN. ALL OTHER STEM
LENGTHS HAVE BLOCKOUTS REMOVED IN SAME LOCATIONS (AS REQUIRED).
SEE NOTE 2.

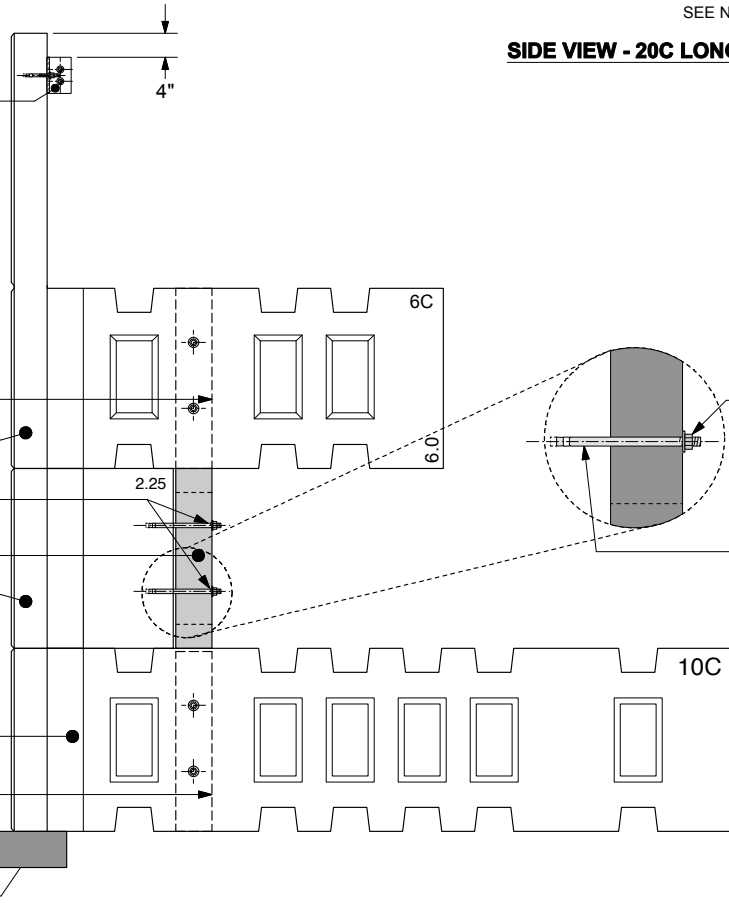
SIDE VIEW - 20C LONG STEM CORNER UNIT



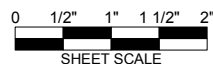
CORNER PLATE CONNECTION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS: EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS STANDARD OR TOP UNITS OF THE SAME STEM LENGTH. SEE STANDARD OR TOP UNIT REBAR DRAWINGS FOR DETAILS.
- FOR SHORT STEM CORNER UNITS (2.25C, 2.75C): SEE CORNER UNIT REBAR DRAWINGS
- PLATE TO BE A36 STEEL 12" x 6" x 3/8". PLATES TO BE HOT DIPPED GALVANIZED (ASTM 123) AFTER FABRICATION.
- EXPANSION ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED (ASTM 123) AS FOLLOWS:
5.1 1/2"Ø x 5 1/2" EXPANSION BOLT
5.2 3/4"Ø x 12" EXPANSION BOLT
- HOLES FOR EXPANSION ANCHOR BOLTS TO BE FIELD DRILLED AS FOLLOWS:
3.1 1/2"Ø DRILL BIT TO A DEPTH OF 4"
3.2 3/4"Ø DRILL BIT TO A DEPTH OF 12"



SECTION A-A



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PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

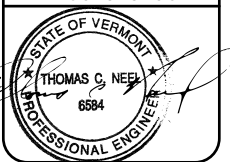
CONTRACTOR:
PROJECT #:

DESIGNER

THE NEEL COMPANY
8328-D TRAFORD LANE
SPRINGFIELD, VIRGINIA 22152
PH: (703) 913-7858
FX: (703) 913-7859
WEB: WWW.NEELCO.COM

PROJECT #: TW4437

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REVISIONS

**I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET**

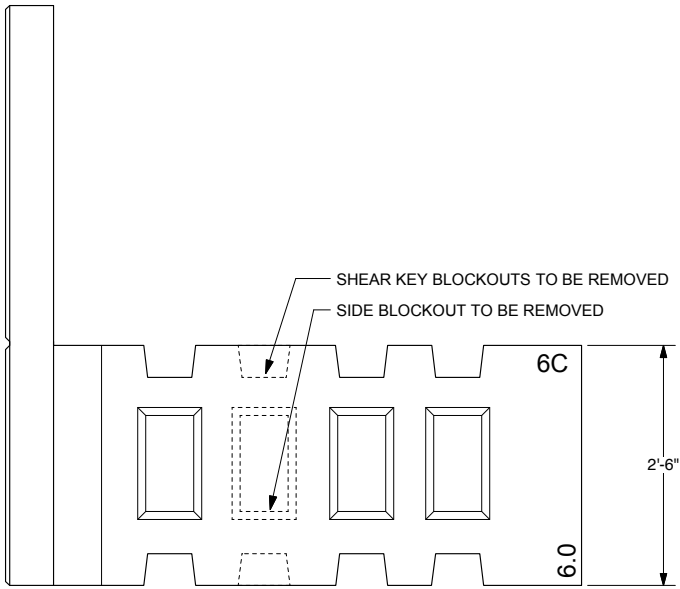
**WATERBURY, VT
IM 089-2(43)**

**SHOP DRAWINGS
WALL 8 90 DEG. CORNER DETAIL**

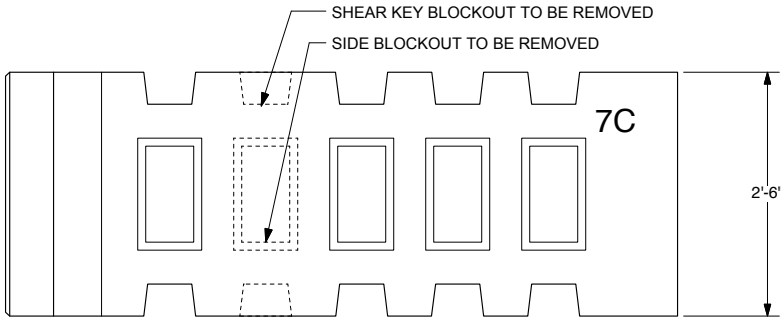
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-28

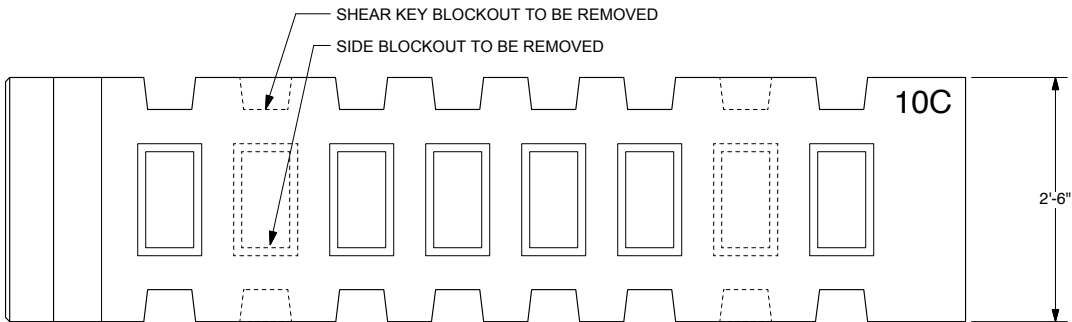
6' LONG STEM BY 6' HEIGHT CORNER UNIT
(SEE SHEET 40 FOR MORE DETAIL)



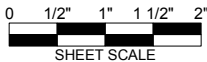
7' LONG STEM CORNER UNIT
(SEE SHEET 32 FOR MORE DETAIL)



10' LONG STEM CORNER UNIT
(SEE SHEET 32 FOR MORE DETAIL)



SHEAR KEYS AND SIDE BLOCKOUTS REMOVAL DIAGRAM




The design contained on these drawings is based upon information provided by the owner. On the basis of this information, The Neel Company has designed, and is responsible for, the internal stability of the structure only. External stability, including foundation and slope stability, is the responsibility of the owner.

This drawing contains information proprietary to The Neel Company. T-WALL® is a registered trademark owned by The Neel Company. ©2015 The Neel Company

PRECASTER: CONCRETE SYSTEMS, INC.
HUDSON, NH
PROJECT #: T22259

CONTRACTOR:
PROJECT #:

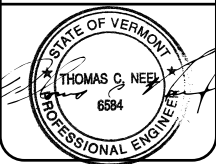
DESIGNER



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PROJECT #: TW4437

CERTIFIED WITH RESPECT
TO INTERNAL STABILITY OF
T-WALL® STRUCTURES ONLY

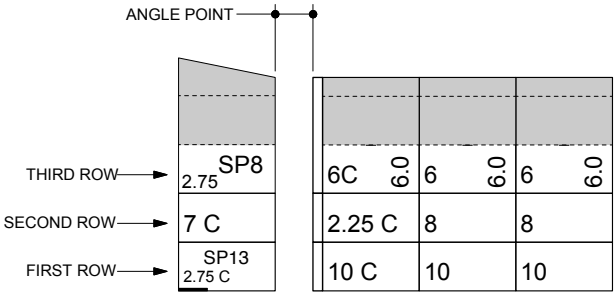


THOMAS C. NEEL
6584
PROFESSIONAL ENGINEER

REVISIONS		

I-89 BRIDGE DECK REPLACEMENTS
I-89 OVER STOWE STREET
WATERBURY, VT
IM 089-2(43)
SHOP DRAWINGS
WALL 8 CORNER PAN REMOVAL DETAIL
T-WALL® RETAINING WALL SYSTEM

SCALE:	AS NOTED
DATE:	1/23/2015
DESIGNED BY:	KB
DRAWN BY:	CTH
CHECKED BY:	KB
SHEET:	TW-29



WALL 8 ELEVATION

NOTES:

- ALL CORNER UNITS ARE DESIGNATED BY A TRAILING 'C' IN MARK No., i.e. - "20C" INDICATES A 20 FOOT STEM CORNER UNIT WITH BLOCKOUTS REMOVED.
- FOR LONG STEM CORNER UNITS:
EXCEPT FOR REMOVAL OF SPECIFIC BLOCKOUTS, ALL DIMENSIONS AND REBAR ARE THE SAME AS A STANDARD UNIT OR A STANDARD TOP UNIT OF THE SAME STEM LENGTH. FOR MORE DETAILS, SEE THE STANDARD UNIT REBAR DRAWING OR STANDARD TOP UNIT REBAR DRAWINGS .

GENERAL NOTES:

- PRIMARY REFERENCE: AASHTO, LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, 4th EDITION 2007 (WITH INTERIMS)
- MINIMUM CONCRETE COVER IS DESIGNED FOR 2" ON ALL BARS.
- CONCRETE:
 - F'c = 5000psi @ 28 DAYS
- REBAR:
 - EPOXY
 - GRADE 60
- T-WALL FINISH FORM FINISH:
 - PLAIN STEEL FORM FINISH